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PALMSOURCE SHEDS ENGINEERS, EYES PROFITS

BY EDWARD J. CORREIA

Palm OS developer PalmSource Inc. has laid off 16 employees—approximately 6 percent of its work force—from its U.S.-based staff, SD Times has learned.

According to Kip Meintzer, director of investor relations, most were from engineering, which as of July, accounted for 189 of the company's 292 workers. "There were some redundancies," he said of the engineering department, but added that the move was driven mainly to help get the company to profitability.

"This could just be normal work-force restructuring now that the major work on Cobalt

is done," said Chris Lanfear, practice director for embedded systems software at Venture Development Corp., referring to the latest version of the Palm OS. "Then again, laying off engineers is not a good sign."

While PalmSource continues to run in the red, it appears to be on a positive track. It posted a net quarterly loss of US\$2.9 million for the quarter ended May 28, compared with \$3.4 million from the same quarter a year earlier. The company lost \$15.2 million for the fiscal year ended on the same date, compared with \$21.8 million from fiscal 2003. ■

Web Services Spec Could Lead to Others

WS-Addressing forms infrastructure for security, reliability and transactions

BY YVONNE L. LEE

If BEA, IBM, SAP and Sun are right, their WS-Addressing specification will lay the foundation for a whole host of Web services specifications, particularly those for security, transactions, asynchronous interactions and reliable communications.

The new spec, submitted to the World Wide Web Consor-

tium in August, describes where to find a Web service. It defines Web services "end-points," which are the initial locations and destinations of Web services. Such locations and their notations go beyond URLs or even the more generic uniform resource identifiers, or URIs, in that WS-Addressing specifies how to find specific Web services messages and how those messages are interrelated, said Marc Goodner, technology architect at SAP AG.

Other new Web services specifications, including WS-Security, WS-Reliability and WS-Authentication all reference WS-Addressing, said Dave Mendlen, director of Web service technical marketing at Microsoft Corp. Developers will be more interested in the specifics of the higher-level specifications, he said.

"I think that what's different

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In Web services, the routes you use matter, says Microsoft's Mendlen.

Moving Toward the Mega-IDEs

Tool makers offer their support, but will everyone want them?

BY JENNIFER DEJONG

Small tool makers are a pragmatic bunch. They don't disagree with the application lifecycle message promoted by IBM, Microsoft and others, but they question whether business analysts, QA professionals and IT managers will flock to the "mega-IDEs" designed to address every aspect of how applications are designed, coded, tested and deployed.

"No QA or senior manager

is ever going to fire up Eclipse or Visual Studio," said Colin Doyle, Integrity Solution product manager at software configuration company MKS Inc. "They are developers' frame-

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Mega-IDEs require people to work in new ways, says Empirix's Fernandes.

Borland is taking another shot at the enterprise with 'Themis'

BY JENNIFER DEJONG

There's no name change this time, but Borland Software Corp. is re-inventing itself again.

Less than four years after it dropped the name Inprise Corp. and returned to its roots as a company that sells software to developers, Borland was expected to announce at its BorCon conference in San Jose this week an ambitious plan for a software development platform that enables companies to apply a manufacturing-like discipline to the process of build-

ing enterprise applications.

Software projects have a bigger rate of return than manufactured goods, said Borland's CEO Dale Fuller. "But software development today has no discipline [associated with it]. No one has figured out the process and methodology to make it work."

Code-named Themis, for the Greek god of order, the platform will link top management with coders and other technology professionals, allowing senior

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SPECIAL REPORT

Apple Is Moving
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Sun Promises to Open Entire Solaris Code

Company won't hold back anything from end-of-year release; enhancements dribble out

BY YVONNE L. LEE

Sun Microsystems Inc. has decided that when it makes Solaris available as open source at the end of this year, it will make the entire operating system available, not simply the kernel or portions of the system.

"Our intent when we open-source Solaris is not to hold anything back," said vice president of the operating system product group, Glenn Weinberg.

That would include everything but some device drivers to which Sun does not have ownership rights. In addition, the company plans to make it possible to work with all aspects of the operating system even when some aspects such as these device drivers are released as binary rather than source code, he said.

The open-source version of Solaris will have a different name, similar to how Apple uses the name Darwin to refer to the open-source foundation for Mac OS X, he said.

Sun is still determining other details about how it will offer Solaris as open source, such as the name of the project and the

organization through which it will offer the software. This information will be available when the company releases the software at the end of the calendar year, said spokeswoman Jennifer Doetting. Sun president Jonathan Schwartz first indicated at a news conference at the SunNetwork Conference in Shanghai, China, in June, that it would open the Solaris source code. Since then, it has been refining how and when that would be accomplished.

In the meantime, Sun continues to dribble out features for Solaris 10, due the end of the year, through its Software Express program. Under the program, registered users receive the new features of the operating system as they are rolled out roughly monthly, rather than waiting for the full release at the end of this year.

Sun disclosed the full details for Solaris 10 in February but has been releasing the features individually.

The two most recent features released were Dynamic File System and the ability to

run Linux applications unmodified directly on Solaris. Dynamic File System is built on shared virtual storage pools. Such systems make it easier to dynamically allocate space, said Dan Kusnetzky, analyst at IDC.

The move to run Linux applications is an acknowledgement of Linux's increasing market penetration, Kusnetzky said. It is not new in the

industry, he pointed out.

"This is proudly announcing what other people have been doing for years," he said. "[In IBM's] AIX 5L, the L stands for Linux."

Initially, organizations may purchase Unix systems because they can run both Linux and their own applications, he said. However, developers may gravitate toward building Linux

applications, which would in turn lead organizations to buy Linux systems, he said, comparing it to a failed IBM campaign that maintained OS/2 could run Windows better than Windows.

Sun will release more features through Software Express at the end of this month, Doetting said, but she refused to disclose which features would be in the release. ■

Longhorn Delayed Until 2006

BY JENNIFER DEJONG

The long delay for Longhorn just got longer.

Microsoft Corp. said in a statement last month it will not deliver the next generation of the Windows operating system, code-named Longhorn, until 2006. It also acknowledged that the 2006 release will not include WinFS, the XML-based storage subsystem, previously touted as a key component of Longhorn.

WinFS will not be delivered until "after the Longhorn release," the statement said. But Longhorn will include the two

other subsystems also previously touted by Microsoft: the XML-based presentation layer, code-named Avalon; and the Web services communication component, code-named Indigo. Avalon and Indigo are part of WinFX, Longhorn's .NET-enabled programming interface. In 2006, they will also be made available in Windows XP and Windows Server 2003, Microsoft said.

Microsoft did not offer an explanation for the Longhorn and WinFS delays. "But Avalon and Indigo are on, or ahead of, schedule," said Tim Huckaby, a

Microsoft regional director, who has seen production versions of both. The phased approach of holding back WinFS lets Microsoft avoid an even longer delay, he said.

Longhorn was originally expected in 2005, but the delay until 2006 was not unexpected. In April, Microsoft warned that the beta version would not be ready until early 2005. "They found out this giant monster would take longer than anticipated," said Huckaby, co-founder and CEO of consulting firm InterKnowlogy LLC. ■

A New Meta-Message for MetaMatrix

New chief executive to bring a different emphasis as \$12M funding round closes

BY DAVID RUBINSTEIN

With new CEO Joseph Chappell and US\$12 million in new funding in place, MetaMatrix Inc. is looking to do a better job describing how its solution solves problems and to continue to grow into the commercial market.

MetaMatrix has focused on providing the U.S. government with its MetaBase modeling and MetaMatrix server solutions, designed to help organizations inventory all their available information and make it visible in a form that is best suited for the purpose, said Chappell, who joined the company Aug. 1. However, Chappell added that this current quarter will be the company's best ever in terms of signing up new commercial customers. He cited Credit Suisse First Boston and Motorola as two major customers that have embraced MetaMatrix at the



Better explanation of what the solution does is a goal, says MetaMatrix's Chappell.

software architecture level and are using it in enterprise integration projects.

One of the drawbacks of government contracts is that the company is limited in what it can say about them, Chappell explained. "We're doing extremely well in the federal space, in the intelligence and

Department of Defense communities," he said. "Now we're seeing more interest on the civilian side of government as well."

An upside to the government contracts is that those agencies put the product through rigorous stress testing, which helps MetaMatrix on the commercial side. "We want to leverage our success in the government and financial services sides. You'll see [pharmaceuticals] for us, where there is a lot of information in a lot of different forms, as well as telecom in Europe. We're looking to do some of the same things here."

Chappell spent seven years working in the enterprise application integration space at Oberon Software, doing process-level integration, before being recruited by MetaMatrix board member Ray Lane, former president of Oracle Corp. "Ray approached me to talk

about the company. There is a high degree of overlap in the business models and challenges" between MetaMatrix and Oberon, he said.

Among the challenges in marketing MetaMatrix is that the power of the platform and its capabilities are such that that's all his people want to talk about, Chappell said, noting that from a solution standpoint, the benefits have not been made as clear. As the product line is built on Object Management Group Inc.'s Model Driven Architecture and exploits its Meta-Object Facility, the company's descriptions have been at a very high level, Chappell admitted.

"Our marketing message is getting refined," he said. "Often, our customers are better able to articulate the story than some of us are. Part of my due diligence before coming here was talking to people using the product to

learn how they characterize it and the capabilities it has that are important to them. Fundamentally, most people want to know what problems this applies to and how it can help them solve their problems."

Chappell described MetaBase and MetaMatrix server, at the core, as giving the ability to access and make available information across an enterprise regardless of its source or form, allowing usage of that information by a host of parties that before had difficulty finding that information.

Integral Capital Partners of Menlo Park, Calif., was the lead investor in the round of funding, which brings the total MetaMatrix has raised since its inception in 1998 to US\$42.4 million. Kleiner, Perkins, Caufield & Byers also joined the round and increased its stake in the company. ■

Adoption Of .NET Continues, Study Says

BY ALAN ZEICHICK

It's been two years since the introduction of .NET, and Microsoft Corp.'s new platform is well on the way toward dominating the Windows environment. Even so, there's a tough road ahead of it—especially since Java usage also is expanding.

Those are the results of the third annual .NET adoption study conducted by BZ Research in July. BZ Research is a subsidiary of BZ Media LLC, publisher of SD Times. This study was completed by 943 subscribers to SD Times, and has an accuracy range of 3 percentage points. The previous .NET studies were conducted in July 2003 and June 2002.

.NET adoption has zoomed, with 66 percent of developers saying that they plan to build or migrate applications to that platform over the next 12 months—that's up from a 53 percent response to that same question two years ago.

At the same time, only 16 percent of responders say that they'll build new ActiveX-based

applications in the next year, and 20 percent will use COM or COM+. That's a decrease from 31 percent and 33 percent, respectively.

Despite the migration from older native code to .NET, the number of respondents who indicate that they plan to write applications for any Microsoft platform has remained statistically constant, moving from 72.5 percent in 2002 to 73.9 percent in 2004.

In a separate question, when asked which platforms they planned to target for in-house applications, survey

respondents overwhelmingly indicated Windows XP or other Windows desktops, with 78 percent targeting those platforms. This was followed by Windows servers, at 62 percent, Linux/Unix servers, at 44 percent, and Java servers, at 28 percent.

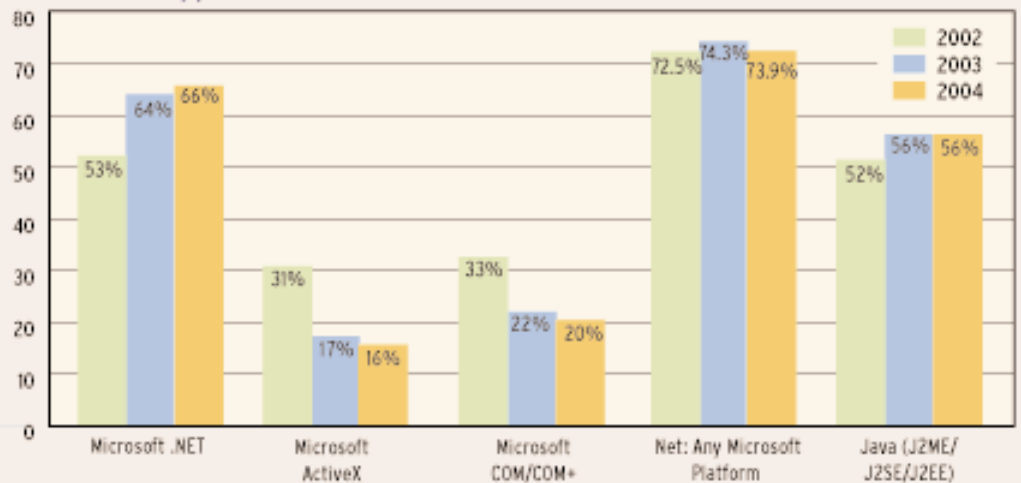
What about languages? Java continues to rule the roost, with 54 percent of developers planning to write new applications in that language—a result that's nearly constant with the 53 percent figure given by developers two years ago.

Microsoft's new Visual C# language came in a surprising second, at 46 percent—a big increase from the 37 percent response offered by developers in 2002, when the language was newly introduced.

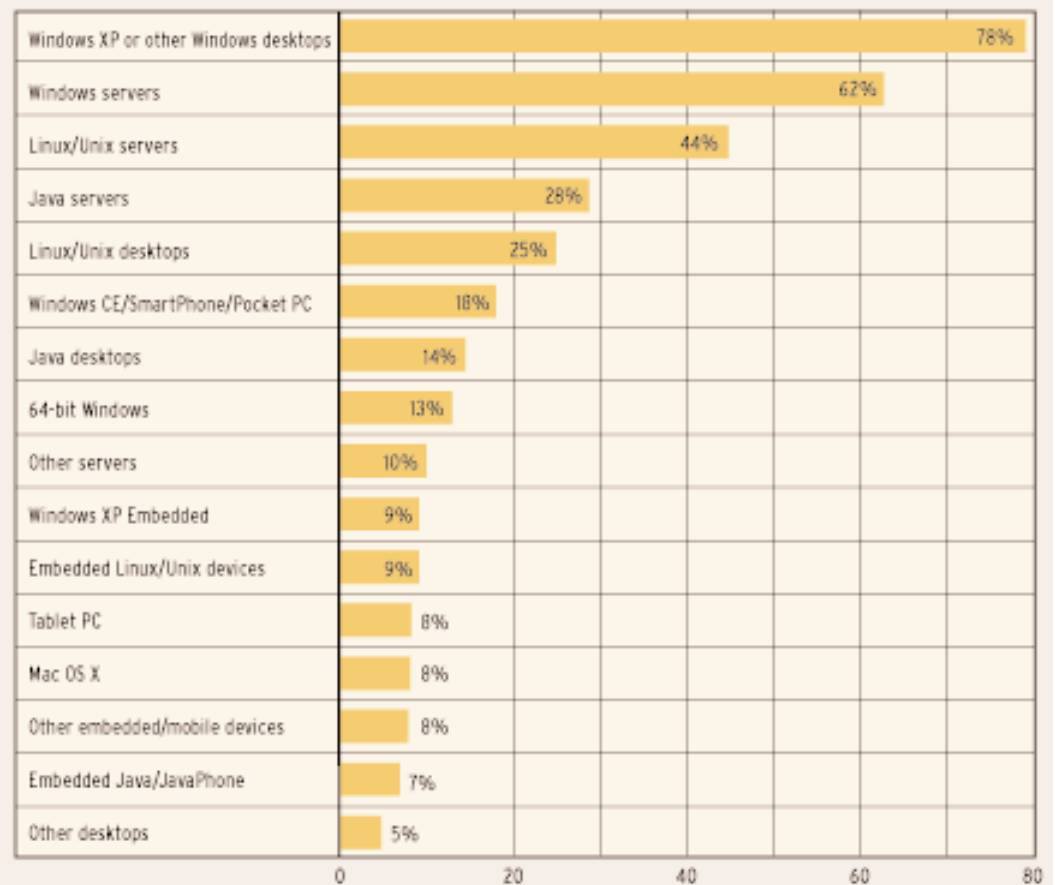
Another surprise is the decline in both flavors of Visual Basic. The move to .NET has had a strong effect on the original Win32 version of the language. In 2002, 39 percent of developers expected to write new applications using it—but in the more recent study, that dropped to 35 percent. Also popular are the common Web scripting languages, VBScript, JScript and JavaScript, which together account for 28 percent of new development; followed by Visual C++, at 26 percent; Perl/Python/PHP, which aggregate to 21 percent; and Delphi/Kylix/Pascal, at 14 percent. ■

The 2-year-old platform gains momentum at the expense of Win32 technologies, while Java continues as the most popular language.

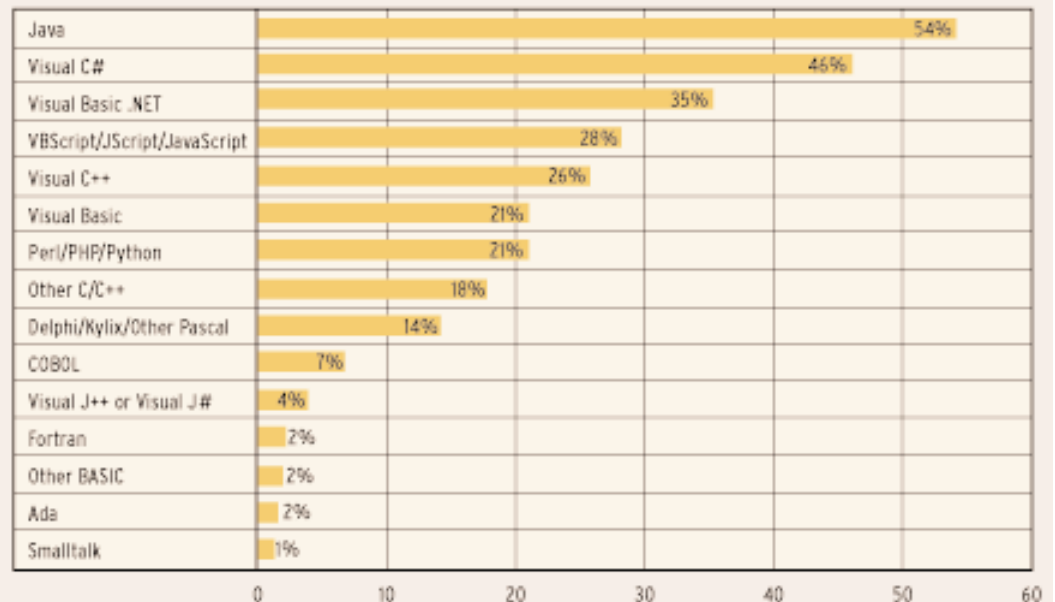
Which platforms/component models do you plan to migrate to or build new applications for over the next 12 months?



Which deployment targets do you plan to migrate to or build new applications for over the next 12 months?



Which programming languages do you plan to migrate to or build new applications with over the next 12 months?



Source: BZ Research



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News Briefs

NEW PRODUCTS

Fujitsu Software Corp. has announced **NeoKicks**, an application for migrating CICS COBOL software to run on ASP.NET as a Web Forms or Windows Forms application. The software, which plugs into Visual Studio .NET, includes tools for migrating the COBOL code to Windows and turning CICS BMX screens into Web Forms. The output from NeoKicks works with Fujitsu's NetCOBOL for .NET compiler. . . . Kentico Software s.r.o., a Web content management company based in Brno, Czech Republic, has introduced **CMS**

for ASP.NET, a content management system for Microsoft's Web server platform. The software, priced at US\$499 per production Web site, offers a site editor with components for content publishing. . . . Macraigor Systems LLC is offering **mpDemon**, a debugging tool for embedded 32-bit microprocessors. According to the company, the software is faster than its existing Raven and Wiggler debuggers, and is designed for applications where high throughput in downloading binary files to the target's flash memory is key. The US\$1,800 mpDemon board includes Ethernet, parallel and serial interfaces for the host system. . . . Macromedia Inc. is offering a **Flash Video Kit** to let its Studio MX 2004 users add video to Web sites using a Dreamweaver MX 2004 extension. Video published using this extension can be viewed through Macromedia's Flash player. The kit includes the extension and tools for converting common video file formats into FLV, or Flash Video format. The kit can be purchased for US\$49 per developer. . . . SautinSoft is offering **HTMLtoRTF**, a Windows DLL that converts HTML and ASP files into RTF documents. The regular edition, US\$149, takes HTML string and returns it as an RTF document, preserving font settings, special characters and hyperlinks. The \$690 professional edition can convert both files and strings, and allows users to set page orientation and margins. The DLL is a COM object that can be called from both Win32 and .NET applications.

UPGRADES

Thought Inc. has released a minor update to its object-relational mapping software. **CocoBase 4.5 SR6** makes it easier to import object models from tools like IBM's Rational XDE and Borland's Together. It also has performance enhancements, according to the company. . . . The newest version of **McCabe IQ**, a suite of quality management tools from McCabe & Associates Inc., now works with Microsoft's C#



language. Version 8.0.2 of the software, which also works with C++ .NET and Visual Basic .NET, includes an enhanced configuration wizard and also tighter Visual Studio .NET integration. The software measures and reports on code quality, and monitors the testing process.

. . . Component developer Software FX Inc. has started the beta process for two upgrades. **Chart FX 6.2 for COM** will bring the Win32 version of both the client and server software into feature compatibility with Chart FX 6.2 for .NET; those new features include smart data axis labeling, highlighting of specific series and columns, multiple panes within the same chart, and support for Macromedia Flash animations. The company is also preparing version 6 of **Chart FX Financial**, which will add the specialized financial features of the COM-based Chart FX Financial with the .NET capabilities of Chart FX 6.2.

. . . Absoft Corp. has released version 9.0 of its **Pro Fortran** tool kit for Mac OS X. The kit includes both Fortran 95 and C/C++ compilers, plus the company's multilanguage IDE. According to the company, compiled applications



run up to 25 percent faster; there is also a bundled debugger. The compiler costs US\$899 per seat. . . . QL2 Software Inc. has upgraded **WebQL**, its server software for adding text and data extraction to Web sites. Version 2.3 improves WebQL's ability to mine PDF files, including more accurate recognition of lines, word boundaries and general character proximity. It also has automatic detection and removal of columns and line endings to produce text in human-readable order; document structure analysis for converting documents to spreadsheets and databases; and automated recognition of nontextual elements. WebQL runs on Linux, Solaris and Windows. . . . LogicLibrary LLC has shipped version 3.5 of **Logidex**,

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Requirements Tool Gets Templates, Properties

Catalyze aims to standardize across projects

BY DAVID RUBINSTEIN

Project templates and the ability to define custom properties highlight the new features in Catalyze 3.0, the requirements capture tool from Dublin, Ireland-headquartered SteelTrace Ltd.

The five templates that come in the new version are for QA, standard software development, feature-driven development and business process, as well as an empty template with no custom properties for users running Catalyze for the first time, according to Fergal McGovern, chief technical officer at SteelTrace.

The standard software development template, used for defining requirements, has custom properties for project scope, business case, project team and schedule, and risk mitigation, McGovern explained, while the QA template, used for defining test requirements, has properties that include test hardware, test software, expected result and result.

The feature-driven template creates two packages for a project: one for features and one for detailed requirements, McGov-

ern said. Features are held in the feature package, while the related requirements are gathered in the second package.

A tool called "refinements" ties the features to the requirements, he added. The business process template is for defining those processes, and includes properties such as business stakeholders, business priority, times and resources. The higher-level nature of these requirements makes this tool particularly useful in organizations employing service-oriented architectures, he noted.

Because the templates allow for role-based work, each user can create his or her own document profile, so reporting can be done in a text file, spreadsheet or HTML, depending upon how the user would like it, McGovern said.

ENCOURAGING REUSE

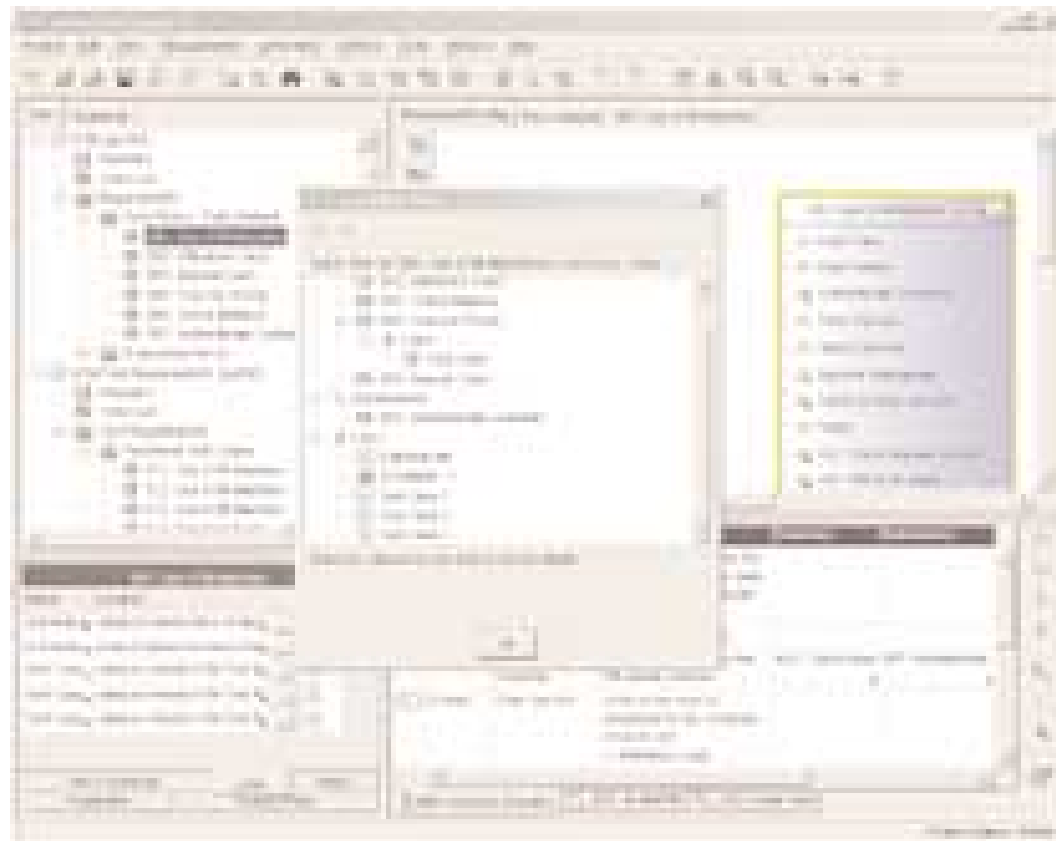
A benefit of predefined templates is that they can foster reuse within an organization, he admitted. "I know it's dangerous to say, but if it's easy for me as an analyst to search the template set or the repository as a whole and find an appropriate

set of precanned structure to use, why wouldn't I?" He said that consistent glossaries, which can be gleaned from or built into the templates, or a unified set of steps for "login," help companies use these items across multiple projects.

Also new to version 3.0 is traceability across projects and into test cases. "A user can relate any aspect of a project to any other, to get a holistic view" of work, he noted, giving as an example that a QA tester could see all requirements associated with the tests.

Catalyze 3.0 now provides users with an element-level change history, with versioning and labeling for ease of tracking, he said, as well as a new ability to differentiate packages and package tags, for different levels of requirements.

Catalyze 3.0, available now, comes in two editions. The Professional edition, which does not include traceability, project templates or multiuser support, costs €1,795 per node-locked license, while the Enterprise edition costs €2,895 per node-locked license or €4,895 per floating license. ■



Structured business requirements trace to functional test requirements in Catalyze 3.0.



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Microsoft Ups Mainframe Integration Ante

BY JENNIFER DEJONG

Microsoft Corp. unveiled Host Integration Server 2004 at the SHARE user group conference in New York last month, eager to build credibility among the audi-

ence of IBM mainframe users.

The previous version, HIS 2000, let Windows developers connect to data and applications on IBM mainframes and midrange AS/400 computers,

but HIS 2004 also allows mainframe and midrange programmers to make calls into Windows, said Paul Larsen, group program manager for Microsoft's business process and integration

division. HIS 2000 was based on COM, but HIS 2004 is built on .NET, he explained. It can be programmed using Visual Studio .NET, letting developers wrap mainframe business applications

as Web services or .NET server components. That avoids the "arduous task" of hand-coding the connections, Larsen said.

For the first time, Microsoft is offering two editions of HIS; both were expected on Sept. 1. The standard edition, which costs US\$2,499 per server processor, provides network, data and security host access; the enterprise edition, priced at \$9,999 per server processor, adds integration capabilities, such as Microsoft Message Queuing (MSMQ) to MQSeries Bridge, which integrates the MSMQ Windows and IBM's MQSeries messaging technologies. ■

BEA Ships WebLogic For ISVs

BY YVONNE L. LEE

BEA Systems Inc. is now shipping a scaled-down version of its WebLogic Platform to be marketed toward independent software vendors.

Accompanying the pared-down suite is a pared-down price of US\$17,000 per server processor compared with the \$90,000 per processor cost for the enterprise edition. The pricing is for a limited-use license that can be used only with the ISV's packaged applications, according to BEA.

WebLogic Platform ISV Edition includes WebLogic Server, the WebLogic Workshop IDE, the JRockit Java Virtual Machine, a pared-down version of WebLogic Portal, and some parts of the WebLogic Integration server.

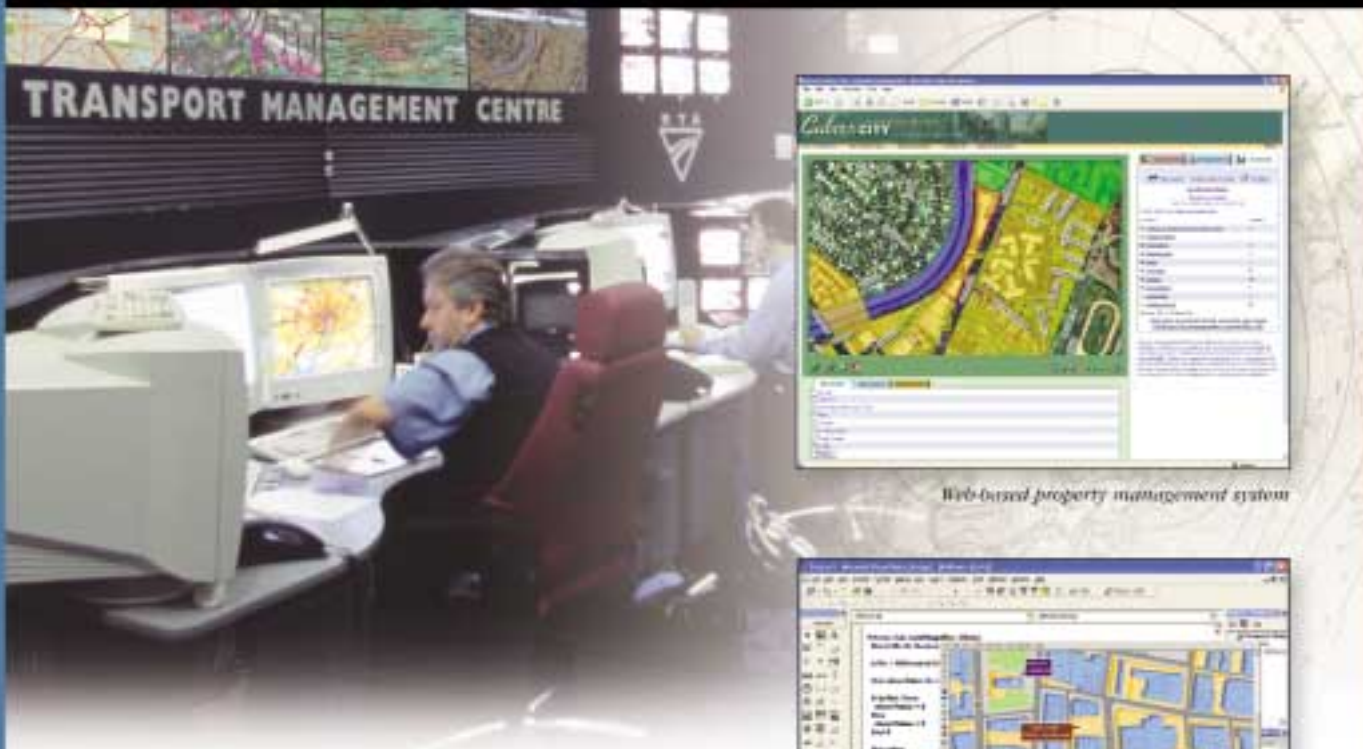
The integration features include BPEL capability, data mapping and transformation, and business process monitoring.

"We've also added some portal features from WebLogic Portals," said Robert Flannigan, technical strategist for worldwide channels and alliances. "You have the UI off the shelf so that you can focus as an ISV on the business aspects. The User Interface Designer has been included."

WebLogic Platform ISV Edition can be bundled as a runtime edition with software makers' packaged products.

Although BEA has traditionally marketed the WebLogic platform to enterprise developers, ISVs have long been a significant part of the company's customer base, said Flannigan. ■

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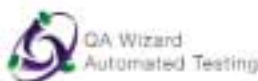
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Bare Bones Beefs Up BBEdit

Version 8 adds scriptless scripting, tidies HTML

BY EDWARD J. CORREIA

With about 100 new features aimed at improving developer productivity, it might be incorrect to call BBEdit 8 from Bare Bones Software Inc. bare-bones software. According to the company, the version released on Aug. 30 simplifies editing operations on multiple files, moves those operations to the background and delivers support for source code indexing and Perl debugging, among other changes.

"Nobody works on just one document at a time," claimed Bare Bones founder and CEO Rick Siegel, explaining the motivation behind the new file drawer, a collapsible component of BBEdit 8 document windows that displays file lists. "Now you can open multiple related documents and switch between them just by clicking on a document in the drawer."

Also new is improved file

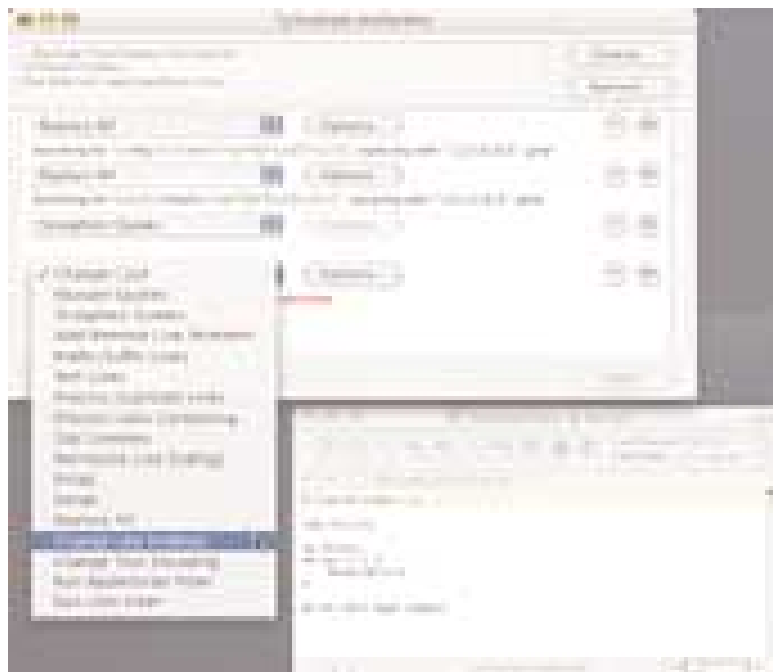
searching. Version 8, which requires Mac OS X 10.3.5 or later, supports multiple simultaneous file searches across directories and servers. "Multifile search has always been easy, but one thing that was difficult was to search in more than one folder at a time with one gesture," Siegel said.

The new version also supports Exuberant Ctags, an open-source code indexing tool originally for Unix that permits developers to click on a symbol in their code and display a list of all the definitions of that symbol and route directly to it. "Because the source code is indexed, access is instantaneous. This speeds navigation through large bodies of code—a huge productivity boost for developers," Siegel added.

BBEdit 8, which now costs US\$199 per seat, or about 10 percent more than the previous version, also integrates with

Affrus, a Perl editing and debugging environment. "Now you can write Perl scripts in BBEdit and debug them using Affrus," he claimed. File differencing functionality can now be invoked from the command line, and Unicode support has been improved, Siegel said, adding that the tool works very well with documents written in multiple languages within a single document.

Also among the major new features, according to Siegel, is Text Factory, an environment for file editing automation. "Text Factory allows developers to assemble text transformations together into a list of operations without scripting or programming. These are savable as documents, so you can quickly reuse them and apply a Text Factory to a single or multiple



BBEdit can now perform multiple text operations on groups of files across multiple systems and projects without scripting, claims the company.

documents." BBEdit 8 also now includes HTML Tidy, an open-source tool for cleaning up common HTML coding mistakes, such as unmatched or mismatched tags.

While BBEdit has always offered the ability to preview code as rendered inside a browser, Siegel said version 8 adds the ability to process code as if it were generated by a server. "Where you begin to have

problems is where your code needs some server processing. Anything that needs to be rendered by a server before it can be accurately displayed can now be previewed by BBEdit as you work on it."

The alternative, Siegel said, is a lengthy process involving manually uploading separate files to a staging server and previewing them one at a time via a Web browser. ■

Software Management Product Rallies 'Round Agile Methods

BY YVONNE L. LEE

Rally Software Development Corp. not only has a hosted service for managing agile programming projects, but it also has employed an agile model to upgrade that service, which this week resulted in the third revision of its management platform since it was introduced in July.

Extreme Programming involves small iterative changes to a product in a short time frame, as opposed to a grand release with many new features over the course of a year or more.

Rally Release 3 has three new features, only one of which was originally on the company's road map, said Richard Leavitt, vice president of marketing and sales.

While most, if not all, software manufacturers say they are "listening to customers," it is a hallmark of the agile process to add features in response to customer comments, Leavitt claimed.

Rally is on an eight-week release cycle, which includes three iterations of adding new



Rally Release 3 shows how the progress of individual tasks is affecting the delivery.

features and one iteration that Leavitt referred to as "hardening," or letting customers respond to those features.

The new features in the US\$65 per-user per-month service are the ability to manage multiple projects from a single

account, increased reporting capability and more iterative defect management.

The multiple project management feature makes it possible for organizations to coordinate the activities of multiple teams that need to integrate

separate work products into one release. This is the only feature of the three that the company initially had placed on its road map for product updates.

Rally Release 3 includes additional reports that indicate how the iterative changes in a

portion of a project are affecting the timeliness of the project as a whole, as compared with how they were projected to affect it.

"You saw in our first release a lot of status reporting. Now, we've added some higher-level reporting to the stakeholders," Leavitt said. "For example, it can now do task estimates and show against original estimates for the full project."

In addition, the Boulder, Colo., company has beefed up its testing and defect management. It now can follow the trail of defects by iteration, full release or by single defect. An iteration report would show how all the tests fared during a particular run and what changed about the code during a particular release cycle. Another view, called the story card, shows the details and history of a particular error.

"I think in Release 1, we weren't really a replacement for people's defect-tracking products, and now we're worthy of that," Leavitt said. ■

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ObjectStore Updates Schema Management, Adds JDO

Features help users get better handle on complex interrelated events

BY YVONNE L. LEE

Progress Software Corp. division ObjectStore this month will announce new complex

event management and support for Java Data Objects in version 6.2 of its ObjectStore object-oriented database.

Like other object-oriented databases, ObjectStore has been able to manage complex data, or objects that have rela-

tionships with other items within the database, such as an airplane assembly that is made up of numerous individual

parts from various suppliers and is in turn related to the airplane as a whole. However, the new version extends this to actions that have similarly complex relationships, said Paul Antosh, director of product management. An example would be a shipment of a part arriving, and in turn affecting the delivery of various outgoing shipments.

"Not only is that a simple event, but it also completes a shipment of 13 orders," he said. "These are real fire hoses of data coming in. When shipping receives a box that might affect a few outstanding shipments, however, when you have a million of those coming in, that's where you have a fire hose of data," he said.

To better handle the complex interrelated events happening in real time, the company has added new features to ObjectStore, he said. Those new features are pattern recognition in real time, filtering, propagation to applications in real time, and running real-time calculations, he said.

ObjectStore 6.2 is scheduled to ship the first week of November for US\$47,000 per processor. Prerelease software is available; however, the product is beyond the beta test stage, Antosh said. The early release is designed for organizations that want to test new APIs in the pilot projects, he explained.

PERFORMANCE TOUTED

The new version has improvements in how it deals with schema changes in the database over the course of the database's existence, Antosh said. He claimed that the improvements in the way ObjectStore handles schema evolution make it possible to change classes of objects 25 times faster than in the 6.1 Service Pack 2, which it released in March.

The JDO support makes it possible to access the database using the JCP-specified interface. "You can develop in JDO and not have to learn anything about our database," Antosh said. "It removes the developer from having to know any database specific information." ■

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Seapine Sounds Off on Surround SCM

New release groups actions, offers LDAP support, works with CodeWarrior

BY DAVID RUBINSTEIN

Seapine Software Inc. last month updated its Surround SCM change management tool with the ability to group actions into a single atomic unit, so that if one action fails upon compiling, the whole group will fail.

Version 3.0 of the tool also supports LDAP and integration with the CodeWarrior development environment from Motorola Inc. subsidiary Metrowerks, said vice president of product development Rich Clyde. The IDEs already supported include Borland's Delphi and JBuilder, Eclipse, IBM's WebSphere Studio, Macromedia's Dreamweaver and Microsoft's Visual Studio .NET; it also is integrated with the ANT build tool.

Speaking to the importance of grouping SCM actions, Clyde explained: "You might be checking in a C file and then an H header file. You check in the header file, but then the C file fails. Now the header's already in there, but it won't compile. Before, you'd have to roll it all back." Clyde noted that CVS and Microsoft's SourceSafe change tools do not have the ability to group actions, and said that other competitors that do allow grouping can do so only for check-in actions. Surround SCM, he said, can group such actions as check-in, rename, move and others.

ENTERPRISE-LEVEL SHIFT

Seapine is seeing a shift at the enterprise level from pure source control to a more robust solution that adds other features. The company sells the Seapine CM suite that includes Surround SCM as well as TestTrack Pro, the company's testing tool. Seapine will release version 7 of TestTrack Pro this month with a new configurable back-end database that will support Microsoft's SQL Server and Oracle, and with the ability to link defects together.

The tool still will have a native TestTrack format with ODBC access, Clyde explained, so users "can mix and match database formats." The ability to link defects allows users to configure workflow rules for parent-child or peer-to-peer relationships in applications. "You can say that issues must be

closed in a specific order, such as fix code first, then the documentation, then the knowledge base article," Clyde said.

The integration between TestTrack Pro and Surround SCM is now tighter, allowing users to fix a bug as the code is

being checked in. "When you check a file into the SCM tool, you can associate a defect with it and mark it as fixed, from the

IDE or SCM environment, and the comments will be carried all the way through," Clyde explained.

The price for TestTrack Pro 7 is US\$295 per named license, Surround SCM costs \$595 per named license, and the CM suite sells for \$695 per named license. ■

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SWAT Aims to Whack More Bugs

BY YVONNE L. LEE

A scant seven months after releasing its first product, start-up Coverity Inc. earlier this month revamped its Software Analysis Toolset (SWAT) defect-checking software to where the company claims it can find three times the bugs that version 1.0 could.

SWAT 2.0 analyzes software, tries to figure out what it does and, based on that analysis, runs unit tests. Because it predetermines the tests to run, the developers and quality assurance teams don't have to design tests, said CEO Seth Hallem.

"We take source code at compile time and attempt to build a model of what is going to happen when that code is run," he explained. "Our software will report that under the following condition, the program will crash

or cause a security vulnerability."

The tool creates a model of likely scenarios and runs the tests during the nightly builds of the software being tested, Hallem said.

"We're coming at it with no human interaction, saying here's a bug and here's how it's likely to happen," he said.

SWAT, which is priced according to the number of lines

of code that will be examined, checks for crash-causing defects, performance degradation such as memory leaks and redundant operations, and security vulnerabilities. Pricing starts at

US\$32,500 for a one-year license to test 500,000 lines of code. SWAT 2.0 continues to scout out only C and C++ applications.

Because of how the tool is designed, it can check for faults earlier in the design process than traditional unit-testing, load-testing and fault-checking software could, Hallem said. ■

WS-ADDRESSING GOES TO W3C

◀ continued from page 1

is that you know that what's here is a Web service, and that there are additional semantics around it," said Goodner. "It allows you to set up more complex conversations. This infrastructure is going to be used by higher-level specifications."

In addition to specifying where a Web service message is, WS-Addressing lays out as an option but does not require a method to indicate the path to access Web services messages.


"Unlike in the physical world where you have some address in New Zealand, in Web services, the routes to how you get to New Zealand matter," said Mendlen.

BEA, IBM and Microsoft have worked together on several Web services specifications, some of which have been submitted to OASIS, and others of which have been published on the companies' Web sites. What's different about WS-Addressing is that it also has Sun on board.


Another difference is that the specification was submitted to the W3C for ratification as a standard, rather than to OASIS, which is the home of many of the newer Web services specs.


BEA expects the finished specification to be ratified by the W3C late in 2005. ■

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JReport 7 Includes Crystal Converter

Jinfonet seeks to attract large number of users of competing reporting tool

BY YVONNE L. LEE

Jinfonet Software Inc. is offering a new version of JReport with the ability to create reports from the Web and with a converter module that translates reports from Business Objects' Crystal Reports.

JReport 7, which began shipping in August, is a Java-based reporting tool designed to be embedded in other applications, said vice president of sales Jon Gularson. It includes a set of APIs so that specific JReport features can be embedded into other Java applications.

The software, which runs on Windows and Unix and is priced starting at US\$10,000 per server processor, includes a report designer, report analysis and server runtime.

JReport Analysis is an ad hoc tool for further examining information returned in a report. The new version makes

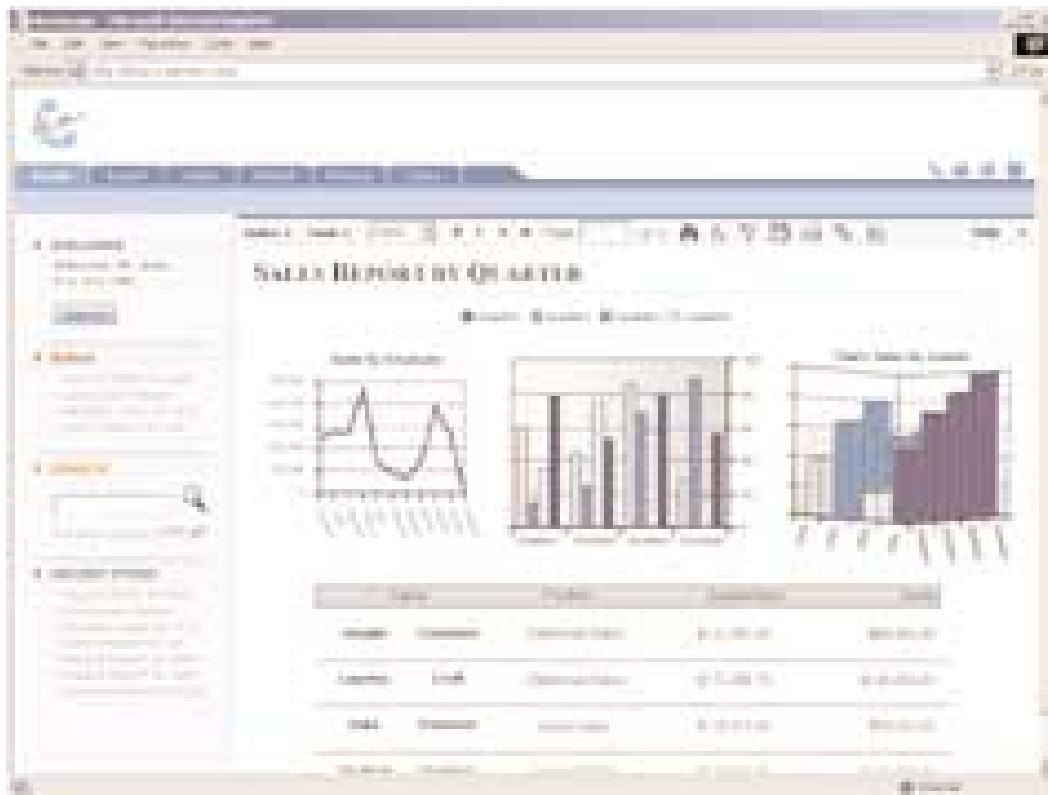
it possible to use this analysis in a report returned in a Web application.

The Crystal Converter was added to attract the large installed base of Crystal Reports users, Gularson said. "A lot of people have invested a lot of time in Crystal," he said.

Another new feature is that the program's Web interface can now drill down, re-sort and otherwise regroup information on the fly, he said.

"We allow people to start looking at it from different angles and change it dynamically," he said.

JReport 7 can pull data from relational databases that have ODBC drivers, from XML documents and from Enterprise JavaBeans. The solution can create data constructs and other groupings directly into the reports. It also can display reports within a browser or in a stand-alone application. ■



JReport screens can be customized to look like the rest of an application. Clicking on a chart will drill down into more information about that data.

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APPLICATIONS - AUTHENTICATION - REMOTE ACCESS - ANTI-PIRACY - LICENSE MANAGEMENT - VPN/SSL

News Briefs

MORE UPGRADES

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its asset management system for Java and .NET. This release adds compliance with the WS-I Basic Profile, as well as support for SAP NetWeaver Developer Studio 2.0, new UDDI features, an open-source license compliance module, and stronger asset search capabilities. The new UDDI features let Logidex control the publication of Web services to UDDI registries . . . Version 1.8 of **Advanced Installer**, from Caphyon Ltd., provides the capability to look for, download and install prerequisite applications prior to installing the primary application. It also adds integrated help and user interface improvements. The Windows software costs US\$99 per seat; a version that can also create MSI packages for installing Java applications costs US\$149 . . . DevComponents LLC has updated **Dot-**



NetBar Suite, its collection of components for Visual Studio .NET. Version 4.1 contains a redesigned design-time editor that offers a real-time preview of UI elements. It also adds keyboard support for side-bar and explorer-bar controls . . . Trilog Group Inc. is offering version 3.5 of **FlowBuilder**, its J2EE development framework that reproduces the Lotus Domino development model within a Java app server. The upgrade contains three new features: a visual SOAP modeler to simplify integration of Web services; an Eclipse plug-in that makes the framework available within the IDE; and an analyzer that examines the XML description of existing Domino applications to estimate the time required to migrate Notes apps to J2EE . . . Microsoft Corp. has revamped its operating system for tablets. **Windows XP Tablet PC Edition 2005** was distributed as part of its Windows XP Service Pack 2 release in August. Among specific changes for tablets are a new in-place tablet input panel and real-time data recognition. For developers, the update includes Tablet SDK 1.7, which extends context-sensitive support in tools that help users tag for context in specific fields for customized forms-based solutions. ■

ware International Inc.'s Ja.Net, which are bidirectional, and CodeMesh Inc.'s JuggerNET, aimed at developers who need to integrate Java code with .NET applications. Other bridging tools include Borland Software Corp.'s Janeva, JBridge.NET, from the company of the same name, Mainsoft Corp.'s Visual

BY JENNIFER DEJONG

Recognizing that Java and .NET applications are no longer islands, a growing number of vendors are offering tools to bridge the gap.

The latest entrant is Stryon Inc., which last month announced iNET, a tool that converts applications written in .NET languages into Java. The product is aimed primarily at Microsoft developers who need to deploy applications not only on Windows but also on Linux, Macintosh and Unix, said Jim Stewart, CEO of the Grand Rapids, Mich.-based company.

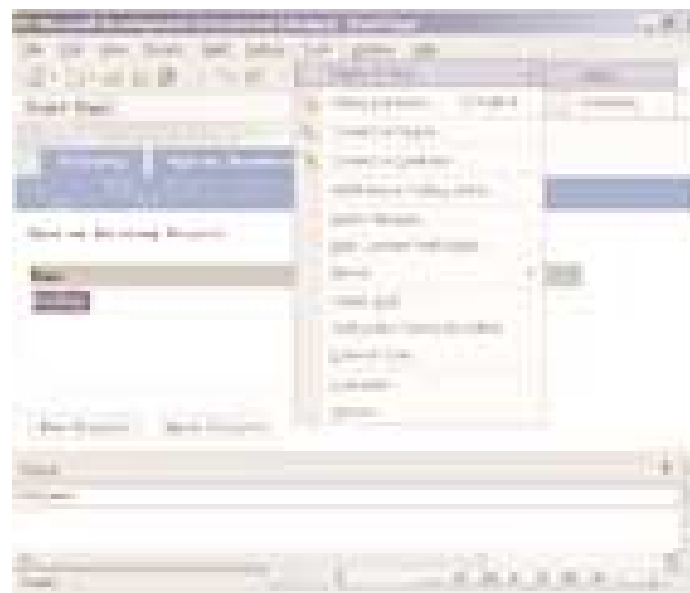
Essentially a translation tool, iNET includes a converter that runs in the Microsoft development environment, translating C#, J# and Visual Basic code into Java. A second component sits on the target machine, providing class libraries that "read" the code translated from .NET, said Stewart.

The product uses the same approach as competitive offerings, such as JNBridge LLC's JNBridge Pro and Intrinsic Soft-

ware International Inc.'s Ja.Net, which are bidirectional, and CodeMesh Inc.'s JuggerNET, aimed at developers who need to integrate Java code with .NET applications. Other bridging tools include Borland Software Corp.'s Janeva, JBridge.NET, from the company of the same name, Mainsoft Corp.'s Visual

MainWin for J2EE, and Recursion Software Inc.'s Cinergi.

The Java code generated by iNET, which starts at US\$995 per server, sometimes requires a bit of tweaking, noted Stewart. For instance, .NET applications that include COM objects typically require Java developers to write workarounds. ■



Clicking the deploy button invokes iNET's Java conversion engine, which converts .NET code to native Java.

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Will Everyone Want Mega-IDEs?

◀ continued from page 1

works." When business analysts see debugging and code-generation features, "they will run for the hills," added Henry Bowers, a director of product marketing at ILOG Inc., a business rules software company.

'A LEGITIMATE QUESTION'

In the past few months, both IBM Corp. and Microsoft Corp. outlined strategies to expand the audience for their respective development platforms.

In late May, Microsoft announced plans for Visual Studio Team System, geared not just to developers, but also to architects, operations managers, software testers and project managers. The company is actively courting tool makers to ready their offerings for Team System, promised for next year.

In July, IBM articulated its own vision of the life-cycle process, comprising analysts, architects, developers, testers and administrators. Code-named Atlantic, the next release of IBM's software development platform is promised for year's end, said Eric Naiburg, market manager for desktop products at IBM. Based on Eclipse 3.0, Atlantic will tightly integrate the tools in IBM's Rational, WebSphere and other product lines, and will also allow third-party vendors to plug in their tools.

How will IBM and Microsoft get nondevelopers to use their expanded platforms? "That's a legitimate question to ask," said Prashant Sridharan, a senior product manager in the developer division at Microsoft. The company plans to tailor the tools it builds into Team System to each role. Tools for architects, for example, will have a different look and feel than those for project managers or software testers. Microsoft is building role-specific tools from the ground up, whereas IBM already has the tools that support its life-cycle message in place today.

But the two strategies are otherwise similar. Team members will use the tools geared to their specific roles, said Naiburg. For instance, an analyst would use WebSphere Business Integration Modeler and Rational RequisitePro, and a tester would use Rational Functional Tester.

Objections aside, the move toward the mega-IDEs appears inevitable. "The question of

suite versus best-of-breed has always been there," said Gary Barnett, a research director at Ovum, a London-based consulting firm. "But we are still a crazy distance away from [the mega-IDE] happening." In the meantime, tool makers will continue to integrate their offerings with traditional IDEs, in addition to providing stand-alone versions of their products.

'WE'LL BE THERE'

Many tool makers said they see Atlantic and Team System not as a new direction from IBM and Microsoft, but as a logical next step—essentially new IDEs (albeit, megasized ones) to support, in much the same way they support other environments their customers are working in.

"Our tools have been testing J2EE and .NET applications all along," said Joe Fernandes, senior product manager at Empirix Inc. The company is readying versions of its e-TEST suite for both environments. "We have always supported IDEs," added MKS' Doyle, noting that his company's software configuration management products are integrated with both Visual Studio and Eclipse.

To succeed, tool makers have to allow customers to work the way they want to, said Richard Riccetti, CEO of Seapine Software Inc. "If you force them out of their environments, you make it harder for them to use your tools," he said. The company's testing and software configuration management offerings are integrated with Eclipse and Visual Studio as well as a variety of other tools, including Macromedia Inc.'s Dreamweaver for Web developers, Riccetti said.

The jury is still out on whether developers will want to work in the mega-IDEs.

"Eclipse and Visual Studio are too big, too complicated, and many developers don't like them," said Adam Kolawa, founder and CEO of test-tools maker Parasoft Corp. "Sometimes you just want to run the testing tools on the server." The company sells stand-alone versions of its products as well as plug-ins for Eclipse and Visual Studio. "We go where there is a market," said Kolawa. "If there is no market, we don't go."

Another impediment to using

the huge frameworks is that they are slow to launch, said Bob Bradley, vice president of sales and business development at SlickEdit Inc. "Sometimes developers just want to open a file and make a quick edit."

He also noted the lack of support for scripting languages, widely used by developers. "If you want to open a Python or Perl file in Eclipse, you can't do that." The company sells SlickEdit Studio, a code editor and IDE for C, C++, Java and other languages, and also offers a plug-in for Eclipse. It doesn't offer a SlickEdit plug-in for Visual Studio. "But our tool supports editing in the [Common Language Runtime]," said Bradley. "The big guys are doing these environments, and we'll be there in some form or fashion."

'SEPARATION OF CONCERNS'

If they are to succeed, Atlantic and Team System will require

programmers and others involved in the development process to work in new ways. "It's really a process, communication and collaboration question," said Empirix's Fernandes. Companies have been trying to integrate development and QA efforts for some time, he said. "But in truth, [the two efforts] are still very siloed."

Bringing nondevelopers, such as QA professionals, into the application development process is essential, said John Michelson, CEO of iTKO Corp., which sells a testing tool for J2EE applications. If nondevelopers don't participate, there will never be quality software, he said. IBM and Microsoft claims aside, he believes that Atlantic and Team System will be too developer-centric to appeal to QA professionals and other non-programmers.

ILOG's view is similar. The

company's tool for managing business rules requires input from both developers and business line managers who own the policies implemented in the software. The mega-IDEs can't address the needs of both parties, said Bowers. "We see it as a separation of concerns," he said. ILOG sells a rules engine for Java and supports Eclipse.

Later this year, it will unveil a rules engine for .NET developers, integrated with Visual Studio, as well as with Microsoft Word and SharePoint, which business professionals prefer to use, he said.

GOING TOO FAR?

Although it's too soon to tell whether the mega-IDEs will become the preferred way of working, there is such a thing as going too far, said Parasoft's Kolawa. "IBM contacted me and asked us to integrate the .NET version of our testing tool in Eclipse. I said: 'What for? Do you think anyone wants to develop .NET under Eclipse?'" ■

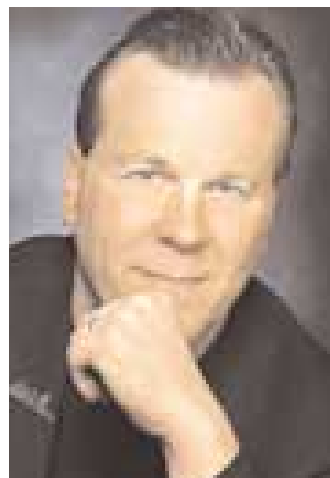
Borland Takes Another Shot at Enterprise

◀ continued from page 1

executives to keep an eye on the application development process in much the same way that ERP and manufacturing systems let them see what's happening in the supply chain and on the shop floor, said Fuller. Themis extends beyond IBM Corp.'s strategy for its Atlantic project and Microsoft Corp.'s plans for Visual Studio Team System, he claimed. "They focus inwardly on technology people, touching the business only tangentially," he said, noting that both systems will be used by business analysts who define requirements, but not by top managers and finance people.

DEVELOPERS ARE BLAMED

Themis is based on Borland's new Software Delivery Optimization (SDO) strategy, which treats software development as a manufacturing process, allocating resources where they are needed most to deliver higher-quality applications faster, said Boz Elloy, Borland's senior vice president of software products. For instance, instead of letting programmers work on what they were working on last week, SDO allocates top programmers to top projects. "Developers are often working on the wrong things. And when the project doesn't



Fuller emphasized that Borland will never leave developers behind.

deliver a return on investment, developers get the blame," he said. Developers are often referred to as "software engineers," he added, "but the term is a joke." There is no engineering applied to software, he said.

The heart of Themis, promised for the first half of 2005, is Borland's existing product set, including its development tools, Together (for modeling) CaliberRM (for requirements management), StarTeam (for change and configuration management) and Optimizeit (for testing). To develop components for business executives, Borland plans to team up with "top global sys-

tems integrators," said Fuller, but he did not name the partners. Fuller provided little detail about Themis, other than to say, unlike Atlantic and Team System, roles such as business analyst or tester are not tied to individual products.

How will Borland, a US\$300 million company, compete with the likes of IBM and Microsoft? "We [span] both worlds of .NET and J2EE. That is our strength," Fuller said. Although Eclipse is an open framework, IBM isn't likely to support C# in Eclipse. Nor will Microsoft support Java in Visual Studio, he said. He also noted that Borland will continue to offer versions of its product for Visual Studio and Eclipse.

Fuller insisted that the enterprise sell Themis will require is not a shift in strategy. When Borland announced in 2000 that it was dropping the Inprise name, derived from the slogan "Integrate the Enterprise," many saw the move as a decision to return to selling products to developers. "This is something we have been doing for the last four years with our application life-cycle management [ALM] solutions," he said. "Themis is an evolutionary step," he said, emphasizing that the company will never leave developers behind. ■

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Mentor Puts Nucleus Developers on Edge

Company to halt stalwart XRay, Codelab tools, moves functionality to Eclipse

BY EDWARD J. CORREIA

Better late than never: When Mentor Graphics Inc. acquired Accelerated Technology Inc. in the spring of 2002, among the first promises of former ATI president Neil Henderson was to integrate that company's Codelab application test suite with Mentor's XRay debugger.

Now two-and-a-half years later, Mentor last week released Nucleus Edge, which combines the tools into a single Eclipse plug-in to which it says it will migrate current customers. The company will continue to support Codelab and XRay for a time, but will no longer advance those tools separately.

"Our aim is to move existing customers to the new environment, [and] any new tools will plug into Eclipse," said Robert Day, director of marketing for Mentor's Accelerated Technology division, who called the merging project "one of the most significant products we've developed."

Day said Mentor devoted more than 30 developers to the US\$3,000 per-seat Windows tool that initially will target Nucleus and proprietary RTOSes running on ARM 7, ARM 9 and XScale processors.

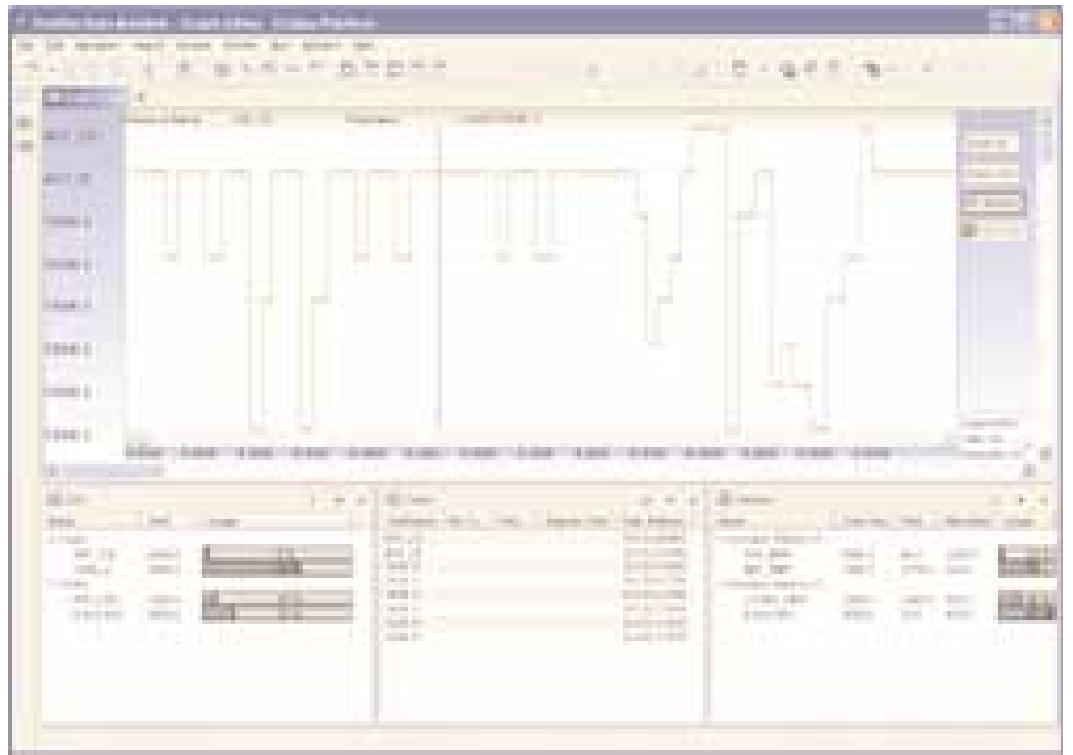
It remains unclear whether a future edition will target VRTX, the company's other RTOS.

Day said that in addition to migrating the existing functionality to Eclipse, the XRay side of the tool will include enhanced multicore and project management capabilities.

"We've added multicore functionality to allow people under Eclipse to get into the IDE and debugger," he said, adding that while XRay did offer some project management, it can now more easily handle multiple instantiations of code or operating systems within a given environment or running on a single multicore processor. "Eclipse had no notion of multicore solutions, so lots of the work has gone into this."

Day said while developers can use the SlickEdit plug-in for a fine code editor, "we wanted to build an editor that would tightly integrate into the debugger, build and project manager tools," which he said required extending the Eclipse project manager. "To make it more usable in embedded, we link into Mentor's compiler and editor options for a more seamless edit-compile-debug cycle."

"We put a lot of work into



The XRay debugger and the Codelab analysis suite will no longer be advanced as separate products.

the tracing, profiling and analysis tools," Day said of the Codelab side, which offers an RTOS profiler and links to vendor-specific tools such as ARM's ETM trace module. Edge works with Mentor's compilers as well as with ARM's RealView and GNU compilers.

Day claimed that using what

he called a data-driven way of describing an operating system, developers also can use Edge to develop and debug for a proprietary RTOS or a multicore processor running Nucleus on one core and their own on another. "They just describe what their RTOS looks like and how the task control blocks

look, and they get built-in kernel awareness with any embedded system."

Day said that whether Mentor applies this model to VRTX will depend on customer demand. "Because we're doing a data-driven RTOS-awareness package, the inclusion of VRTX should not be too tricky." ■

ITTIA Relights 'db star' Database

Database developer hopes open-source engine will open doors

BY EDWARD J. CORREIA

Add one to the list of companies using open-source to promote its for-pay products and services. Data management consultancy ITTIA in August revived db.*, a database project abandoned since the late 1990s that includes a small-footprint database engine for C-language applications.

"We're giving it away to promote our consulting and technical support services," said Daniel Horal, a marketing representative at ITTIA, whose flagship ITTIA ODBC is sold as an add-on to db.* (pronounced db star).

Horal said the in-memory database, originally introduced by Raima Corp. as db_Vista, was popular in real-time and other embedded systems, and as an application-specific database

inside telecommunications, financial services, networking and document management applications. Raima, which had renamed it as Raima Database Manager (RDM), was acquired in 1999 by Centura Software Corp. That company invested heavily in the product and released an open-source version called db.*, replacing the * with

the target operating system, such as db.linux and db.bsd. That's the project ITTIA now maintains as db.*.

"Centura ultimately went bankrupt," Horal said, "[and] a lot of software that has been abandoned used Raima databases internally," he added, explaining ITTIA ODBC's niche. "Our software allows people to access those databases and add reporting functions or get their data out for migration to new applications."

ITTIA hosts and maintains the db.* source code at www.ittia.com/dbstar/dbstar.html. It is released under the Centura open-source license, which Horal said is the same as Mozilla's

with one important exception: "The database may be run only on an open-source operating system." It has been tested on OpenBSD and various Linux distributions.

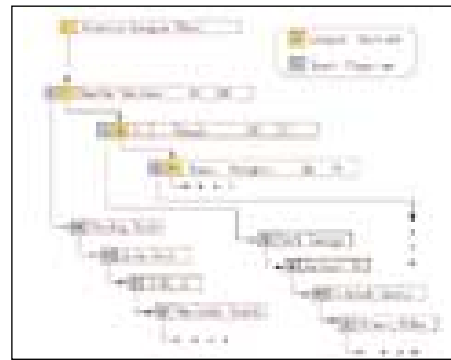
According to Sasan Montaseri, ITTIA founder and president, the main advantages of db.* are its small footprint and fast performance. Unlike most relational databases, which he said use indexes to retrieve records, db.* employs a network model that Montaseri said is akin to C's pointer-based technique. "With a pointer, you access records directly, so there's no I/O involved. As a result, accessing records is tremendously faster than relational databases."

The downside of the network model, Horal said, is more intensive programming requirements. "Our database lets you

switch between the two, depending on the need."

Horal admitted that free software can be viewed as a carrot, but rejected the notion of bait-and-switch marketing. "ODBC is useful for a lot of people, and selling add-ons is certainly part of our business model. We don't expect that most people will add it, but if they want to, we're happy to offer it." Montaseri claimed that ITTIA's is the only ODBC product available for Raima databases.

Centura sold the Raima database in 2002 to Birdstep Technology ASA, which used it as the foundation of its flagship embedded product. But according to Steve Wampler, database director of marketing at Birdstep, the product was in need of improvements to reliability, stability and performance, and now bears little resemblance to its original. "Birdstep has done a major overhaul of the codebase. Our RDM Embedded [also has] SQL, JNI, XML and mirroring," he said. ■



db.*'s network-model database stores data in sets for faster access than relational databases.

VxWorks 6 Goes to Beta

Wind River integrates RTOS with Linux; updates Eclipse-based tools

BY EDWARD J. CORREIA

Wind River Systems Inc. said it is on track for a 2004 release of VxWorks 6, the next edition of its

real-time operating system announced in February that will offer memory protection, an extensible API and support for

non-VxWorks apps through compliance with POSIX APIs. The software was released for public beta testing in late August.

"This is our most important technology release," said John Bruggeman, Wind River's chief marketing officer. The

new RTOS is part of the company's General Purpose Platform, which also includes middleware and the latest version of Workbench, its Eclipse-based version of its Tornado IDE that it says will target both VxWorks 6 and Linux.

Most significant for developers, according to Bruggeman, is the tight coupling of VxWorks with Linux. "There is now messaging and transaction connectivity between them. This means that you can now develop projects that use VxWorks or Linux as the underlying technology base and use Workbench as the IDE for either."

TELECOMM AND BEYOND

The impact will be particularly important for targets in which more than one operating system will be running, as Bruggeman said is commonly done in telecommunications equipment. "Typically, the management card is running carrier-grade Linux and the line card is running VxWorks," which he said is being done today, but with difficulty. "This is costly and complicated because integration is at the application layer. What we've done is to integrate at the operating system level, which makes it faster, easier and cheaper for telcos to [develop] these solutions."

Wind River also expects new opportunities in markets for set-top boxes, rack-mount systems and consumer devices. "We've done all the blue-collar heavy lifting. Customers increasingly want to purchase everything in one place. The General Purpose Platform is an off-the-shelf solution that includes an RTOS, middleware and an IDE."

Why not just use Linux for the entire design, including its real-time implementations where needed? "There continue to be applications that require a very small footprint with nanosecond performance, reliability and instant boot capability. Those are VxWorks sweet spots. In a digital camera, for example, you don't want to miss an important shot waiting for it to boot. Linux today is not able to deliver to those types of applications, and is not going to for a long time," claimed Bruggeman.

Developers can download VxWorks 6 beta code, along with the Workbench 2.0 (formerly Wind Power) for Red Hat Enterprise Linux 3.0 hosts, at www.windriver.com/announces/vxworks/release. ■

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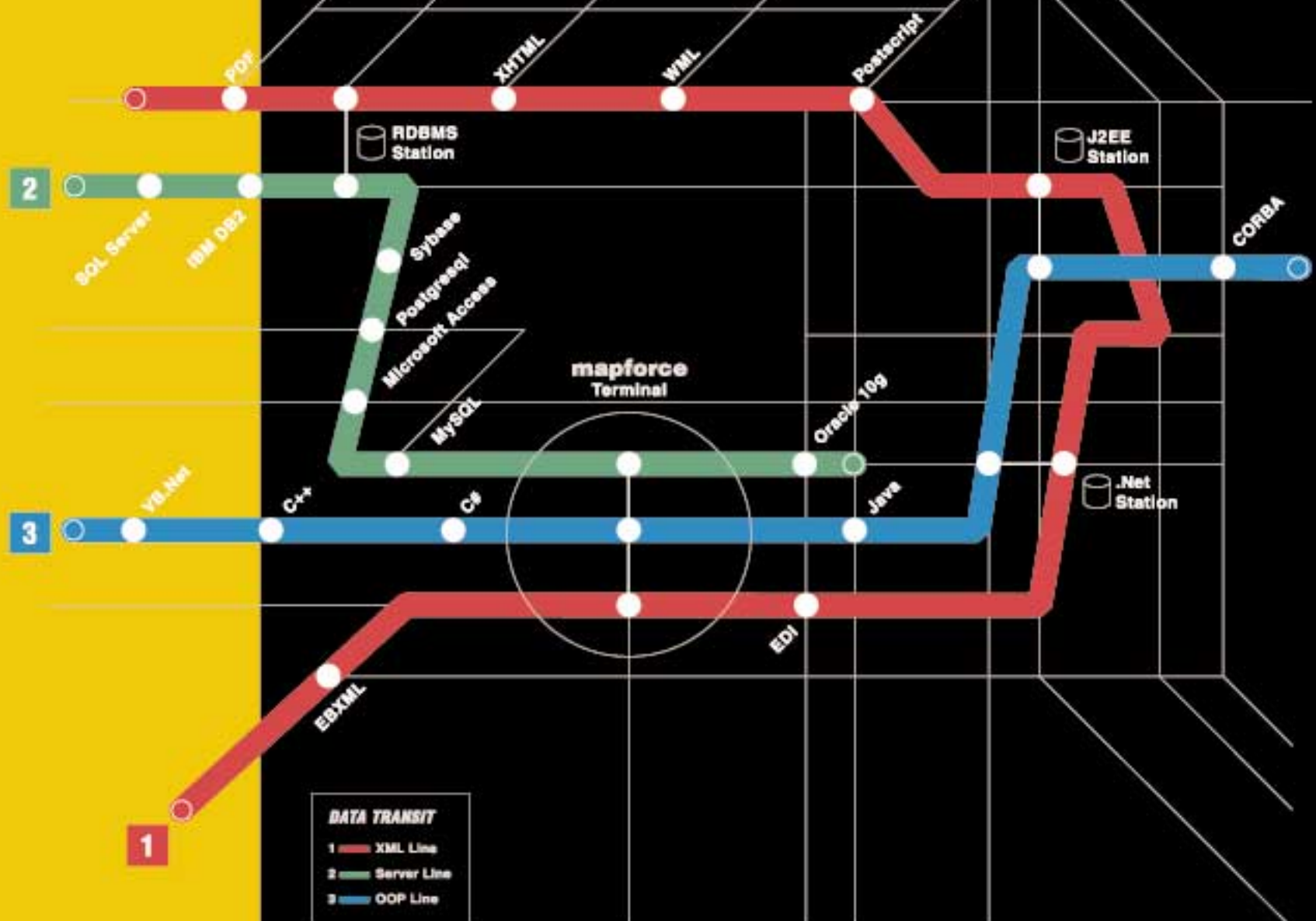
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Apple Is Moving Into The Enterprise

The maturing Mac OS X is becoming an inviting application platform

BY SUSAN LEVI WALLACH

Twenty years after their introduction, it's just possible that Apple Computer Inc. and its Macintosh might finally be making their move into the enterprise.

To be sure, the Apple Macintosh, with its just-about-intuitive GUI and reputation for reliability, has long had the hearts and minds of art and marketing departments, desktop publishers, educators and other creative types. But it is only since the advent of the nonproprietary, Unix-based Mac OS X that enterprise software developers and independent software vendors have given it much of a thought.

In fact, it would seem that developers have long liked the Mac, and liked it a lot, but mostly as a personal machine. Now the tools and apps they need to use the Mac as a full-fledged development platform for mission-critical applications are starting to become available. Add to that a growing list of ISV products, and it would appear that enterprise players are taking the Mac seriously.

Oracle Corp. is one of them. The Redwood Shores, Calif., enterprise software company is certifying its JDeveloper Java and Web services development

environment for Mac OS X, effective with its new release.

"We're finding that there has been a lot of anecdotal support as well as metrics that we're getting from downloads and surveys showing that Mac OS X is becoming increasingly popular among the developer community," said Ron Cheng, a director of product marketing at Oracle.

"That's not just developers who are creating Mac-specific applications, not just the traditional entertainment/art industry that are traditionally associated with Apple," he said. "It's also more mainstream Java developers. Oracle's philosophy has always been, 'We'll go to where the developers are. We'll support them where they want to be, to make it easier for them to develop for our products.'"

Likewise, Bakbone Software Inc. has ported its NetVault enterprise backup-and-recovery product to Mac OS X. "Apple had first approached us and asked if we'd be interested in moving to the platform," said Jet Martin, the San Diego company's director of product management. "We did the analysis of the market, and it looked like an interesting opportunity. It looks



The interface can be friendly when you want it to be, but when you want to get in deeper, that capability is there as well.

—Michael Margolies, advertising director of technology and prepress, Macy's West

like Apple is beginning to get traction in the enterprise marketplace."

"The stars are aligned for a top-notch non-Microsoft desktop," said Peter Kastner, co-founder of Aberdeen Group Inc., in Boston. "Apple, and not generic Linux, is the logical brand to take that to market."

Martin sees the advent of Mac versions of business applications such as Oracle's JDeveloper as a clear indication that Apple has more than a foothold in the enterprise. Several developers cited the Apple Xserve server, with its dual 64-bit processors, the Xserve RAID, and the new release of the Xcode suite of developer tools as signaling Apple's resolve to move beyond its traditional markets.

For the enterprise developers who already have been working on a Mac, it's a little like coming out of the closet. Real developers work on Unix or NT boxes. The Mac was for dilettantes. "We were typically all Red Hat up until about a year ago, when our former CIO ordered a PowerBook," said Michael Pike, an information technology specialist for the Indian Health Service (IHS) section of the U.S. Department of Health and Human Services, in

Shiprock, N.M. "I thought he was nuts. It wasn't two weeks after he got it that I was begging him for one."

Now, said Pike, IHS is fielding a number of Apple-based hosted applications, including clinical databases and online competency exams for health-care professionals, that are accessed by some 50,000 users nationwide. "With Apple, when I write these applications they deploy and work," he said. "You don't have to compile things into kernels. You don't have to go in and do a lot of the low-level stuff that you have to do with classic Unix systems. That was the major reason I switched."

ATTRACTIVE USER INTERFACE

Pike isn't the only one. Ease of use, both in terms of the Apple GUI and the portability of applications written on Mac OS X, and the strength of the underlying system were the reasons that developers most frequently cited for preferring to work on an Apple.

"We love the interface," said Michael Margolies, advertising director of technology and prepress at Macy's West, in San Francisco. "It's logical; it's easy to get around. It can be friendly when you want it to be and get



Because Mac OS X has a very good version of Java inside, we were able to convert our server side to Java, and use the Mac platform end to end.

—Keith Campbell, CIO, Inoveon Corp.



out of your way. When you want to get in deeper and write something in a terminal window or get down into the meat of the code, all that capability is there as well."

His department's work centers on advertising systems automation: tracking the progress of ads, project expenses and scheduling. A large part involves customizing databases. "Our developers also do a lot of scripting," Margolies said. "They use AppleScript a lot and some of the scripting applications. They write in C++, in PHP, a lot of the typical tools that other programmers would use. Then they also use FileMaker and MySQL and typical Web-development tools such as Apache WebDAV, which they use to harness those tools and create applications to run the system."

Macy's West remains primarily a PC shop, said Margolies, with only 250 to 275 Mac users. This means that applications developed on the Mac platform are often used on PCs. Most of the developers in Margolies' group have both a PC and a Macintosh. "They still choose to write on the Mac," he said.

One reason, said Dan Stackhouse, senior technology engineer at Macy's

West who worked at Apple in the late 1980s, is that company policy constrains the PCs and the NT network a lot more.

"We have about 30,000 people on the NT network," Stackhouse said. "There are a lot of restrictions pushed down to desktops, which makes things more difficult, such as the inability to get to certain aspects of the computer or the necessity of programming domains in a particular way, the necessity of doing three-tier architectures, and so forth. Ours is actually a three-tier architecture on the Macintosh, but because we're developing for a smaller group for the desktop, even though it's a very large group for the Web, we can push things through very quickly."

A GROWING TOOL BOX

Corporate policy aside, the critical factors here are the availability of an increasing number of development tools for Mac OS X and the strength of the platform.

"There are a lot of tools available now on the Mac that allow programmers much more easily to produce large-scale systems," said Stackhouse. "We have a lot of people hitting the Web site—it's fairly complex. Customers, people in the stores who like to see the advertising before it hits the newspapers, and our merchants who specify what they want to advertise can go look at old ads, pick out individual images, blow the images up, select them by image number, and report back to us exactly what images they want to place in new ads and what kinds of modifications they want."

Stackhouse's developers have been using Cocoa MySQL for developing database structure and controlling accessibility. They also tried creating a large workflow/database-control application with FileMaker Pro that didn't turn out so well, mostly because FileMaker wasn't able to handle the load—which, Stackhouse added, was well beyond its intended limit.

"We're going to piece by piece redevelop it in PHP and MySQL so we can control our workflow much better and in a more modular manner," he said. "FileMaker applications don't communicate with each other terribly well. In PHP and MySQL, the bits and pieces communicate with each other extremely well. It's very easy to get the parts to share a database or to send information

back and forth. We're going to break up our prior monolithic control system into smaller bits to do such things as create a schedule for a job or paginate or repaginate a catalog, or to fetch information from the main file server."

To Oracle's Cheng, the main strength of Mac OS X as an enterprise platform lies in the way that Apple integrated the software layer and the hardware layer. "You don't have to piece together a lot of different things," he said. "They're already built in. We find that resonates very well with people who are interested in Oracle's grid message. I think that Apple has found a good balance right now, with their core Unix infrastructure under that good integrated interface."

Moreover, he said, it was "quite easy" to develop for the Mac. The rigors of porting from one platform to another aside, Cheng said that the Oracle porting team had fewer issues porting JDeveloper to the Mac than it had porting to other platforms.

Though several developers said they use whichever system—Mac or PC—is best suited for the application, the Mac was the hands-down favorite. Margolies pointed out that besides the Mac sitting

on his desk at Macy's West, he has six more at home. Yes, he said, it's true that there are more applications for the PC than the Mac, but so what?

"The main tools are all there. Sometimes the more obscure tools from a small company aren't on the Mac," he said. "Occasionally we'll bump into a situation where we'll want to do a particular thing and we can't find the application for the Mac and might find it for the PC, which really means we'll do it on the PC and then port it over. Or we may just write it ourselves."

Some companies, of course, have always developed on and for the Macintosh, even before Mac OS X. Inoveon Corp., for example, developed its suite of applications for diagnosing diabetic retinopathy on the non-Unix-based Mac OS 9, because it required high-resolution color graphics.

"Before Mac OS X came out, we had a Windows NT server platform that collected the images and then transferred them to the appropriate places," said Keith Campbell, the Oklahoma City company's CIO. "Because Mac OS X has a very good version of Java inside and we were able to convert our server side to

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64-Bit Helps Tiger Scratch Out a Niche

BY SUSAN LEVI WALLACH

Macintosh partisans are hoping that Tiger will go where no Mac operating system has gone before: into the heart of the enterprise. Versions of Mac OS X have started to get some serious attention from the development community. The difference: its Unix-based core. For all its strengths, the original Mac OS was still proprietary; the Macintosh's place in the enterprise was in the marketing or graphics department, peripheral to critical business functions. But despite the new Unix technology, Apple Computer Inc. remains a niche player.

Then again, Apple had virtually conceded the corporate market to Microsoft from the get-go—the same tight control intended to guarantee a uniform, nearly intuitive end-user product and high quality also guaranteed limited third-party and software developer participation, which proved to be essential for corporate adoption. Apple didn't seem to feel the need to court anyone.

Lately things have been changing. "Since Mac OS X has come out, we've had a concerted effort to target the

enterprise," said Ron Okamoto, the Cupertino, Calif., company's vice president of worldwide developer relations. The enterprise market is responding, with ISVs such as Borland, Oracle and PeopleSoft announcing tools and products. As more applications such as Oracle 10g come out in versions for the Mac platform and are deployed into diverse market segments, Okamoto expects interest to grow.

One Apple initiative that is getting attention is its focus on 64-bit computing, both with its latest desktop machines and with Tiger, or Mac OS X 10.4, which is based on FreeBSD and the LP64 data model.

According to C. K. Haun, Apple's senior director of developer technical support, with Tiger, daemons have the ability to access the full 64-bit memory range. "Of course, you can't currently buy a stick of memory that is 64 bits wide, but we can have a significantly larger address space that one application can work in. So if you're doing, say, genomic research, you can load the whole dataset into memory at once and iterate over it."

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With Apple, you don't have to do a lot of the low-level stuff that you have to do with classic Unix systems.

—Michael Pike, information technology specialist, U.S. Department of Health and Human Services

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Apple Is Moving Into the Enterprise

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all be Java-based, and because they run very well on the Mac platform, we're running that end to end."

Developers at Inoveon work with Metrowerks' CodeWarrior for native Mac OS X applications and with Borland's JBuilder for Java applications.

A CREDIBLE ALTERNATIVE

Campbell sees Apple as "a credible platform for enterprise computing. Because you have such an incredible platform with the Xserve and Mac OS X and everything that's behind it, we're able to go from beginning to end with

Mac OS X. We're also able to mitigate risk, because we're able to do all our server-side code on Java. Should we need to run on a different platform, we're not locked in."

Still, said Aberdeen's Kastner, for all Apple's progress over the past several years, a prominent place among the makers of enterprise systems is still far from a sure thing. "It's not about

products," he said. "The company needs the institutional fortitude to stand up for enterprise computing as Apple chooses to define it. It's about commitment to customer needs. While Apple

is moving in the direction of more enterprise support than they've had in the last decade, I don't see enough concrete signs to declare the campaign under way." ■

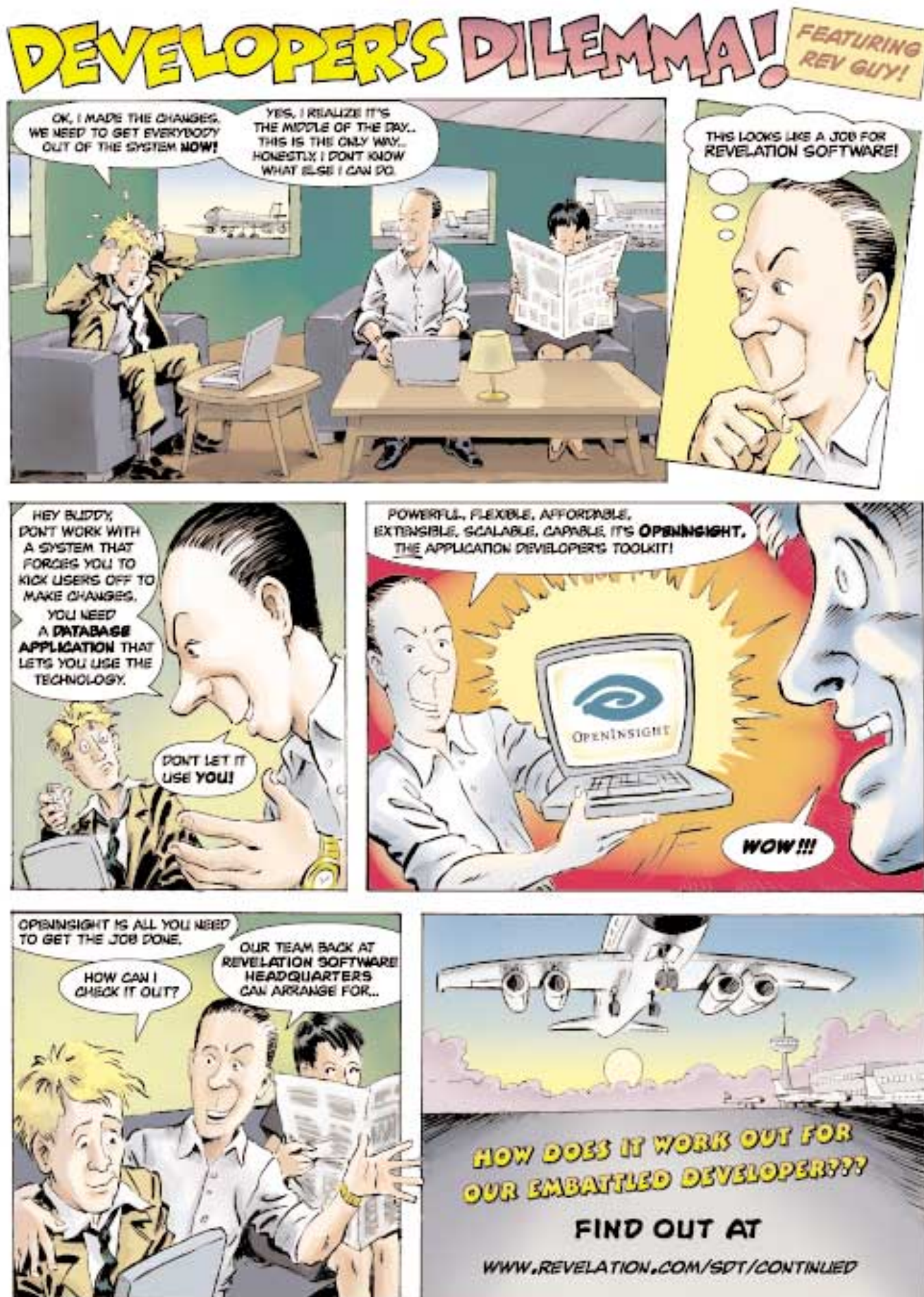
64-Bit Helps Tiger Scratch Out a Niche

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Nonetheless, Okamoto doesn't expect enterprise developers to desert Windows in droves. "Your tools are your tools," he said. "Getting people to switch is hard. That's not easy for a developer." He expects the Macintosh not to replace Windows but to join it.

The enterprise developers Okamoto talks to are starting to "see areas in their market segments where a Mac would fit particularly well. It usually maps with high-end content creation, entertainment, design and publishing, science, education—some of the areas we're very strong in. It hasn't been us going up against NT or anything like that. It's us being able to define new opportunities for code developers and customers to consider a Mac where they didn't consider it before."

And that user interface certainly has its appeal. "Our ability to put a usable, creative, intuitive face on Unix has energized a lot of the Unix and Linux developers," said Haun. "If you are doing Xserve server deployment, you can port your standard Linux or Unix application over in an hour, and then add an intuitive Cocoa-based user interface in probably even less time. That's a real compelling argument for people who are traditional Unix enterprise developers." ■



EDITORIAL

Macs to the Enterprise: Trying Again

Apple Computer Inc. has tried many times over the past two decades to gain a foothold in the general business market. So far, the company has failed. Will the latest incarnation of the Macintosh platform, founded on the PowerPC G5 processor and the Unix-based Mac OS X, be any different?

Until now, Mac OS X has been too new to have much impact. But according to Apple, fully half of current Macintosh users have migrated to the new operating system. If the Mac is going to make its move, now's the time.

In some ways, the niche platform may be a victim of its own stereotyping. The Mac is common among graphics professionals (five machines are used in the production of SD Times, for example), and among artists, academics, scientists, engineers and schoolchildren. And, of course, among the "anyone but Microsoft" crowd. But other than at the smallest businesses, you won't find the iMac or PowerMac on most corporate desktops, or the Xserve in most data centers.

Why not? Given the move to the Web for many corporate applications, Internet Explorer or Apple's Safari client should be able to handle most modern intranet apps and portals. Microsoft's Office for the Macintosh is largely interoperable with Office for Windows. While .NET applications can't run on the Mac, many Java apps can. And it's easier than ever to write applications for Mac OS X, thanks to Apple's Xcode and a growing number of other tools and frameworks.

One reason may be inertia. From a cost/benefit standpoint, it may be difficult to justify the adoption of a new platform—any new platform—into a Windows-centric workplace. That's the same economic challenge that Linux is facing today, and Mac OS X has the additional drawback of being a proprietary platform with no second-source supplier. With Linux or Windows, you can deal with any number of top-tier hardware and software makers. If you want the Mac, you've gotta go to Apple.

Another potential worry is that while Mac OS X looks simple, under the hood it's about as complex as Windows. When it breaks down or has trouble with specific enterprise networks or applications, the IT help-desk and tech-support staffs within companies aren't up to speed on the operating system. Equally, most of a company's Unix developers are focused on building server applications; the desktop programmers are probably trained on and experienced in Windows, and would prefer to move from Win32 to .NET rather than to the FreeBSD-based Mac OS X.

Still, the wind may be changing. Linux has shown that Windows is vulnerable. So have hackers, and enterprises are tired of Microsoft's endless security patches. Plus, when you combine .NET and the forthcoming Longhorn release of Windows, enterprises are going to have to move to a new operating system anyway. Thanks to Microsoft's missteps, business may be more open to the Macintosh question than it's been for a decade.

Let's see if this time, Apple provides the right answers. ■

21 Rules of Thumb for Delivering

Jim McCarthy's "21 Rules" essay was originally written in 1994. Parts 1 and 2 of this updated edition can be found in the Aug. 15 and Sept. 1 issues of SD Times.

GREAT PRODUCTS

13. Enrapture the customers.

Most software is a renewal business. Customers buy multiple releases over a relatively long period of time. As a consequence, the market has a deep understanding of your software and its flaws, and your organization and its flaws.

Often, the market has grown uncomfortably dependent on software that doesn't meet its needs. In many software situations, customers spend hours per/day uncomfortably shoe-horning their lives into your product. As a consequence, they crave your understanding, and will respond enthusiastically to the least sign of it.

Normal success, meeting customer expectations, means to improve the most outrageous and flagrant violations of their needs from version to version. They will likely stay with you if you are faithful about that, though they may well be sullen if not mutinous.

Jim McCarthy led software development teams at Bell Labs, The Whitewater Group, and Microsoft Corp. He is the author of "Dynamics of Software Development" and, with Michele McCarthy, "Software for Your Head."

THIRD OF A THREE-PART SERIES

Great software, however, requires that you pivot your entire technology so that it flows in the direction of their deepest needs. You must innovate in ways that clearly affirm their inarticulate desires. Surprise them by articulating and resolving in your product concerns and fantasies that heretofore had been rumbling about only in their preconscious.

The fantasies of the market are generally centered on issues of empowerment, control and security. The market wants to be able to do things with its computers that it currently can't. Customers often find they can't even publicly admit these needs for fear of computer illiteracy. They derive value and security from being able to apply your software. To admit that they can't do what they want to do requires a sense of security beyond most customers' reach.

Market understanding is the foundation of great software. To repeatedly demonstrate through a series of two or three releases that you genuinely understand the market will result in enormous customer loyalty and brand equity. You will be viewed as the source of the market's empowerment. They will be rapturous.

Gaining this understanding and embodying it in your software requires skill, tenacity and creativity. You must recog-

nize the central market need and organize all your technology and communications efforts in the direction of satisfying that need.

While good listening, careful observation and concept testing will be required for you to identify the correct need, addressing it in your product will have these effects:

- It will appeal to the customer's sense of security.
- It will extend the customer's control.
- It will be such that if all else were dropped from your product, but the central need was met in unique ways, the product would be compelling.
- It will clarify your product messages.
- It will simplify your product's use.

14. Remember one thing: unity. Unity is the master principle of great software. Each element in the product is necessary to the value of the whole, and all necessary elements are there. Since everything you need is there, you aren't tempted to go beyond the present experience, and since nothing is there that isn't required, your absorption into the world of the product will not be disturbed.

Unity of purpose and unity in execution should be the hallmark of your team. Unity is achieved in a product by following certain creative principles (see rules No. 15 to No. 19), whether intuitively or consciously.

Jim McCarthy

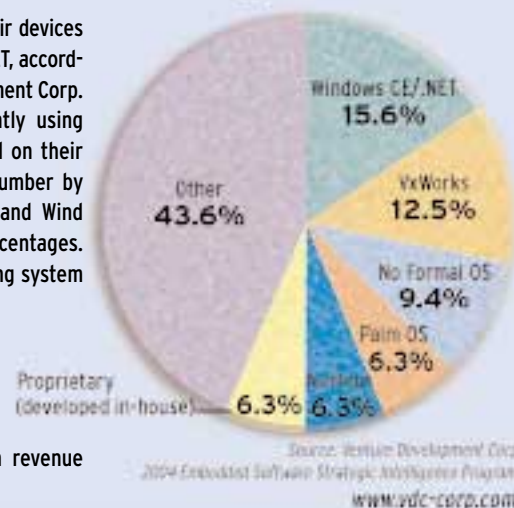


Other Than Linux, What Did Embedded Linux Developers Use on Their Last Project?

Embedded developers adopting Linux to operate their devices are most often dropping VxWorks and Windows CE .NET, according to a report published in April by Venture Development Corp.

The study asked developers who were currently using embedded Linux which operating system was used on their previous project other than Linux. The greatest number by far said they were moving away from Microsoft and Wind River operating systems, both in double-digit percentages. Nearly 1 in 10 said they had used no formal operating system prior to adopting embedded Linux.

In its report "2004 Embedded Software Strategic Intelligence Program," VDC also estimates that worldwide shipments of embedded Linux operating systems, add-on components and related services will reach US\$118.5 million; such revenue reached \$65.2 million in 2003.



Great Products on Time

15. State your theme.

Theme is the dominant idea that constitutes the basis of the design. All of the values of the product must stem from the theme. In order for people to comprehend the theme, it must be rendered with surpassing clarity. Theme is analogous to purpose. The more specific the purpose, the greater the effect. Having a theme to the product will require that you eliminate or at least minimize orthogonal values. This is painful and involves risk.

16. Vary it. Variation is the theme restated and elaborated in slightly altered and embroidered ways. Variation is the means by which we intensify the user's comprehension and appreciation of our theme, and leverage his/her growing consciousness in new ways.

17. Balance it. Allocate appropriate emphasis among the various elements of the product. If a key component supporting the theme, encountered every time the thematic function is enacted, is weak, the theme is weakly stated and the product will be justly criticized.

18. Evolve it. Evolution is when earlier parts determine later parts. Lessons learned in one part of the product apply to the others. Things progress in a way that is pleasing. Outcomes, if not predictable, are satisfying because the product foreshadows them in countless ways.

19. Your product should be a hierarchy. Hierarchy is when the elements of the product gain attention in proportion to their importance. Closely related to the property of balance, hierarchy provides a means for establishing and evaluating balance.

If the theme is the top of the hierarchy, elements at the next level have balanced value with respect to one another, all equally supporting the thematic function, and so on throughout the rest of the hierarchy.

20. Establish a shared vision. It seems absurd to even have to state this, yet it is perhaps the most difficult thing of all to achieve. Everybody on the team must know what they are trying to achieve, what the finished product will look like, what the basis of the product

strategy is, and when they must deliver it in order for it to have its intended effect. Contradictory visions must be resolved and unified. Harmonious purpose must be achieved, or greatness is out of the question and even delivering becomes infinitely more complicated.

SHIPPING

21. Get the team into ship mode. There is a moment on every development project when it is ideal for a team to enter ship mode, which is basically a succession of daily milestones climaxing with the product's shipment.

Ship mode is a high-performance period characterized by efficiency and determination. It is a period of flow. Before a team can enter ship mode, several prerequisites must be satisfied:

- Shipment must be the next milestone.
- Everybody (or nearly everybody) must believe that achieving the milestone is possible.
- All members of the team must understand precisely what they must do prior to delivering. All unknowns are factored out.
- Management must lead the team to ship mode by entering ship mode first. That is, superfluous management hoo-ha is

A video of Jim McCarthy presenting the 21 rules to an audience, as well as the related book, "Dynamics of Software Development: Don't Flip the Bozo Bit and 53 Other Rules of Thumb for Shipping Great Software on Time," are available at www.mccarthy-tech.com.

eliminated, the manager's awareness of detail climbs, fire-drills and other deprioritizing activities are eliminated entirely and tremendous focus is brought to bear.

• The team must desire to ship. Generally, a complete awareness of the effect of delivering (or not delivering) will create desire.

The team becomes especially vigilant about thinking things through and looking for traps. Check-ins are made with extra precaution. Stabilization of the product is the principle goal. All development is complete but for bug fixing.

The endgame, the last stage of ship mode, is different yet again. It is conceptually a very simple exercise. There is a list of activities. When every activity on the list is complete, you ship. Though the list might have hundreds or thousands of items, it is

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What's So Extreme About Extreme Programming?

The analogy of software development to manufacturing has been ingrained in the industry for years. This has led to such concepts as software factories and the commoditization that is currently sending much of the industry offshore.

While reading an Isaac Newton biography, it dawned on me that the Scientific Method is a better analogy for the development of complex and evolving software systems—in that it leads to a methodology that evolves software systems in such a way to make them more and more general and true over time.

Also, I have never been comfortable with the connotations associated with the unfortunate name of Extreme Programming (XP). It makes a hard sell even more so in some circumstances. Especially since the dot-com

bust, management is leery of anything considered remotely extreme—let alone named "extreme."

In addressing what he saw as the basic problem with software development—risk—Kent Beck developed XP. This methodology is extreme only in the way that it applies commonsense principles and practices to the development of software. The fact that programming is part of the name is due to the code-centric nature of the methodology. Communication, documentation and training are facilitated through the code itself—especially through the test cases used to drive the development process.

Being a lightweight software development methodology geared for small to medium-sized teams, XP's strength is in dealing with vague and/or rapidly changing requirements.



XP builds on best practices such as unit testing, pair programming and refactoring. The basic principles of XP are communication, simplicity, feedback and courage; applying the methodology goes through the following five steps:

1. Choose story.
2. Write tests.
3. Run tests.
4. Refine, program and refactor—repeat as needed.
5. Go to step 1, repeat until all stories are complete.

Let's compare against the Scientific Method, which was first introduced by Francis Bacon. It was not used as a strict discipline until Isaac Newton later in the 17th century.

The goal of the Scientific Method is to provide a set of steps to ensure the development of provable theories that may lead to new and greater understandings of the workings

of nature and its systems. These theories are gradually stepped up in generality until the highest level, at which point there may be opportunity for unification of theories.

The Scientific Method consists of six steps, and you can see the similarity with XP:

1. Make observations.
2. Create hypotheses.
3. Make predictions.
4. Conduct experiments.

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CORRECTIONS

Mike Hoskins has been promoted to chief technology officer at Pervasive Software Inc., and Suaad Sait was named vice president and general manager of products and markets. Hoskins' job title and the spelling of Sait's name were incorrect in a news brief in the July 15 issue.

Kim Knuttila is one of the founders of Linux configuration management solution provider Specifix Inc. His name was misspelled in the Aug. 1 issue.

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Publisher

Ted Bahr

+1-631-421-4158 x101 • ted@bzmedia.com

Editor-in-Chief

Alan Zeichick

+1-650-359-4763 • alan@bzmedia.com

Editor

David Rubinstein

+1-631-421-4158 x105 • drubinstein@bzmedia.com

Senior Editors

Edward J. Correia

+1-631-421-4158 x100 • ecorreia@bzmedia.com

Jennifer de Jong

jdejong@bzmedia.com

Associate Editor

Yvonne L. Lee

+1-408-255-1153 • yilee@bzmedia.com

Copy Chief

Patricia Sarica

psarica@bzmedia.com

Art Director

Mara Leonardi

mleonardi@bzmedia.com

Art/Production Specialist

LuAnn T. Palazzo

lpalazzo@bzmedia.com

Columnists

Andrew Binstock

abinstock@pacificdataworks.com

Allen Holub

allen@holub.com

Larry O'Brien

larryo@thinkingin.net

Contributing Writers

Alyson Behr

Shari L. Gould

Lisa Morgan

Esther Schindler

Susan Levi Wallach

Advertising Sales

Southwest U.S.

Julie Fountain

+1-831-476-1716 • jfountain@bzmedia.com

Northeast/North Central U.S./Canada

David Karp

+1-631-421-4158 x102 • dkarp@bzmedia.com

Northwest U.S./Canada

Paula F. Miller

+1-925-831-3803 • pmiller@bzmedia.com

Southeast U.S./Europe

Jonathan Sawyer

+1-603-924-4489 • jsawyer@bzmedia.com

Advertising Traffic

Phyllis Oakes

+1-631-421-4158 x115 • poakes@bzmedia.com

Director of Events

Donna Esposito

+1-415-785-3419 • desposito@bzmedia.com

Director of Circulation & Manufacturing

Rebecca Pappas

+1-631-421-4158 x103 • rpappas@bzmedia.com

Office Manager/Marketing

Cathy Zimmermann

+1-631-421-4158 x108 • czimmermann@bzmedia.com

IT/Web Administrator

Gene De Libero

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Executive Vice President

Alan Zeichick

BZ Media LLC

7 High Street

Huntington, NY 11743

+1-631-421-4158 • fax +1-631-421-4045

www.bzmedia.com • info@bzmedia.com

Larry McCay is a senior software engineer with Probaris Technologies Inc., based in Philadelphia.

What's So Extreme About Extreme Programming?

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5. Modify hypotheses if predictions are not met and go to step 3.

6. Declare hypothesis as theory.

The Scientific Method is concerned with the generalization, unification and development of theories to express the workings of the universe and its components. Much of what constitutes the Scientific Method is related to supporting this goal.

Peter Naur published a paper in 1985 titled "Programming as Theory Building." His contention is that software development tools or methodologies cannot solve the inherent problems of software systems development alone. Naur prescribes the notion of programming as building a theory for the solution of the problem being solved by the project. This provides a greater understanding of the source code and system architecture and leads to a longer life for the system.

One of the artifacts of the development and maintenance

of such a theory is a computer program that is easily extended and modified by a group of developers that understand the original development team's theory of the solution.

Extreme Programming builds on Naur's concept through the use of the metaphor in communicating and continuous development of the architectural aspects of the program.

The common goal of a communicable theory across software development and the Scientific Method provides a jumping-off point for discussing how the Scientific Method supports the Extreme Programming method of delivering software projects.

Just as any new introduction or change in scientific theory must retest and prove previous theory validations, in Extreme Programming, enhancements must not break any of the existing unit or functional tests. In this way, the tests provide a mechanism to not only prove the integrity of the solution, but also to aid in communicating the original and ongoing theory

of the solution. Previously valid tests or experiments that no longer hold true in light of new developments may signify a need for change or dismissal of the original theory or solution.

PAIR PROGRAMMING

The practice of pair programming within XP is a form of real-time code review. Its intentions are to facilitate communication of important design decisions, catch violations of the chosen metaphor or point out simpler designs and possible areas to refactor.

The Scientific Method must ensure the quality and integrity of the resulting data for public use—this is done through peer review. Peer reviews consist of a critical review by technical experts without a vested interest in a particular investigation. The purpose of a peer review is to confirm that the research has been conducted in a scientifically sound manner.

USER STORIES

The development of user stories within XP is crucial in the

collection of requirements and the understanding of the problem domain. The on-site involvement with the customer, as well as clear communication and feedback between the customer and the development team, is arguably the most important tool for the development team. Using this tool, the developers are able to make the most accurate observations of the problem at hand.

TESTING AND EXPERIMENTS

Unit and functional tests are developed to determine the state of the delivery at any point in time. These tests are continuously run so as to catch any change in the integrity of the system. Once all of the tests are run successfully, the system is complete as described by the user's stories. This complete set of stories and tests documents the theory of the system.

The Scientific Method relies on experiments to do exactly the same thing within the development of systems of scientific understanding. Experiments of existing theories must

be re-evaluated for integrity as new theories are being developed. A hypothesis is considered theory when there are no conflicts with its experiments or existing theories.

KEEP IT SIMPLE

One of the core principles of XP is that of simplicity. "Which is the simplest thing that could possibly work?" The simpler the implementation and design, the easier it will be to test and change. This leads to designs and implementations that are more flexible, understood and longer lived.

In order to arrive at the best solution or theory for a given problem, scientists and software developers alike must adhere to certain practices that support the continued testing, evolution and discarding of previous works.

The Scientific Method and Extreme Programming methodologies support these concepts.

Extreme Programming supports the notion of programming as theory building, which emphasizes the importance of the knowledge, communication and understanding of the original development team.

But really, it's just a theory. ■

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ECLIPSE GETS WEB-READY

Tools project aims to strengthen key weakness of open-source framework

BY JENNIFER DELANE

Eclipse hackers have taken a first step toward addressing a key weakness of the open-source framework: its lack of support for developing Web applications.

The Eclipse Foundation and the ObjectWeb Consortium in late July announced the Web Tools Platform, a project intended to beef up the Eclipse framework for the development of Web applications.

"The Eclipse platform has been weak in the Web app tool area," says Christopher

Nes, executive director of ObjectWeb, the not-for-profit consortium that played the lead role in proposing the project known as WTP.

So far, the project, still in the requirements phase, includes code contributions from



Eclipse has been weak in the Web app tool area, says ObjectWeb's Nes.

IBM, which contributed Lomboz, its open-source Eclipse plug-in for building Enterprise JavaBeans and other J2EE components, and IBM Corp., which has provided a collection

of tools, including tools for developing JSP applications and

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Microsoft Running Late On 64-Bit

BY JENNIFER DELANE

Developers waiting for 64-bit Windows will have to wait a bit longer.

Microsoft Corp. acknowledged in late July that Windows Server 2003 for 64-bit Extended Systems and Windows Server 2003 SP1 will ship the first half of 2005, not by year's end as previously promised. SP1, a service pack with security enhancements, is tied to 64-bit Windows. A Microsoft spokesperson did not specify a reason for the delay but said in a statement: "The development cycle is driven by quality with a focus on the needs of our customers."

The 64-bit edition of Windows is designed to take advantage of the 64-bit extensions to the standard x86 instruction set in AMD Inc.'s Opteron and Intel Corp.'s Xeon with Extended Memory 64 Technology processors. Applications written for 64-bit operating systems can process more data per clock cycle and access more memory

than those designed for 32 bits. Microsoft has said earlier that applications written for 32-bit Windows are expected to run on the 64-bit version of the operating system.

Linux and Sun Microsystems Inc.'s Solaris already run on the new chips. But the delay is unlikely to have a large impact anywhere, said Dan Appleman, president of San Jose-based Dimension Inc., which sells software components for Microsoft developers. "Migration to 64 bits is likely to be slow as it is migration to any new technology," he said in a statement. What's more, he said, delays of major products from Microsoft are common, so it's hard to get excited about them.

Microsoft also announced in late July a beta version of Windows Server 2003 for 64-bit Extended Systems (www.microsoft.com/windowsserver/2003/64bitextended.html), which supports AMD Opteron and Intel Xeon with EM64T. ■

BEA Loses Key Thought Leaders

BY YVONNE L. LEE

BEA Systems Inc. lost key technical officers in late July and August, but observers said the departures don't necessarily spell danger for the Java application server maker.

The departures preceded the announcement of quarterly revenue that was up 7 percent to US\$242 million compared with \$243 million for the same quarter in 2003, but in which revenue from software licenses declined to \$116 million compared to \$127 million for the same quarter in 2003 and \$128 million for the prior quarter.

First, vice president of engi-



Adam Bosworth, left, and Scott Dierkes have left the company.

neering Adam Bosworth left to join Google in late July. Then in early August, CTO Scott Dierkes left for undisclosed reasons.

Mark Cargis, who had been executive vice president for strategic global accounts, will replace Dierkes as CTO. Bos-

worth's replacement, deputy CTO, remains in his position.

BEA also lost key marketing executives to rival Oracle Software Corp. last at a lower level Rick Jackson, who had been vice president of products and solution marketing, became the chief marketing officer at Oracle, and senior director for product marketing for WebLogic Server, Workshop and Tuxedo. Eric Fritschberg became Oracle's vice president of marketing.

BEA tapped Wu Wang, who had been Computer Associates International Inc.'s vice presi-

ENTERPRISES WAIT AND SEE ON NEW TOOLS

BY YVONNE L. LEE

Enterprise developers say they are likely to stick with their existing IDEs and test others for now, even as vendors line up to produce visually oriented development tools that focus on simplifying the coding process by automatically generating code.

Sun Microsystems Inc. introduced Java Studio Creator earlier this year, while other Java tool makers introduced products that use JavaServer Pages to make web-page design easier. Microsoft Corp. announced Visual Studio Team System, and Apple Computer Inc., known for enter-to-one software, introduced not only a basic Xcode IDE, but also a visual scripting tool, Automator, to be available with its next operating system.

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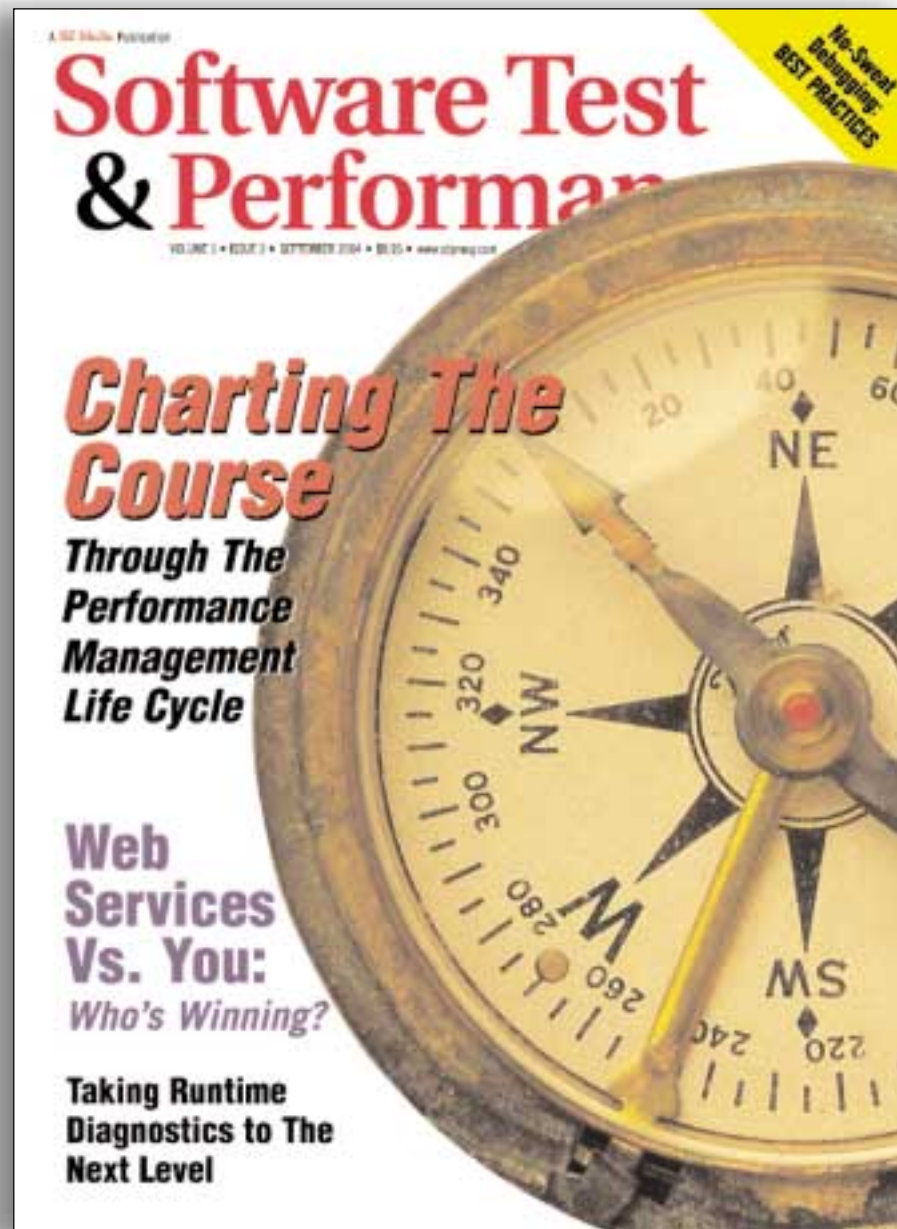
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The End of IDE Competition

Believe it or not, there was a time when developers read head-to-head product roundups with considerable interest and delight. Most famous of these comparative reviews was the annual roundup of C compilers published in Computer Language (now called Software Development). Even the systems-oriented magazines like PC Tech Journal ran C compiler shootouts that included extensive benchmarks, deep analysis of the products and well-reasoned opinions.

In the world of today, product reviews do not muster the excitement of those days. Reviews of programming tools dribble out one by one without the brass-knuckle competition. Several reasons exist for the decline of this kind of useful and important coverage, but none more persuasive than changes in the market itself: There are few product categories in which you can find multiple highly competitive entries.

One category that has enjoyed real, honest-to-goodness competition is programmer IDEs, where solid products have gone head to head for a long time. Consider, for example, the Java space where Eclipse, NetBeans, Borland's JBuilder and JetBrains' IntelliJ IDEA, among others, strive for greater user adoption. Feisty as this market is,

though, I predict it is about to enter into a period of consolidation. Actually, like all sectors of the IDE market, the forces of consolidation are already at work.

In Java, for example, it's clear that Eclipse is the de facto winner. NetBeans is in obvious decline, Borland no longer touts its JBuilder Java IDE, and IntelliJ IDEA fills only a narrow niche (albeit with a tremendous product). If I were betting on this market, I think that the IntelliJ IDEA product will need to morph into an Eclipse plug-in to continue seeing sufficient sales, whereas nothing will spare NetBeans and JBuilder from eventual fade-out.

In the Windows development market, the situation is much the same: Microsoft's Visual Studio .NET is steamrolling all comers. Borland's C# Builder went nowhere. And the source-code editors that expanded into IDEs of their own are either disappearing or planning to become plug-in products. MultiEdit fits in the former category, Visual SlickEdit into the latter.

Beyond Java and Windows/.NET programming, of course, there exist many programming markets, but in

them, too, one IDE has emerged or is emerging as the dominant tool. In the Macintosh market, for example, I think it's hard to argue against Xcode pushing competitive development environments to the margins. Like Visual .NET, it has managed to attain this success by excellence of implementation.

Integration Watch



Andrew Binstock

Dynamic languages such as Perl and Python find in ActiveState's Komodo 3.0 a rich and well-designed environment. Whether it will be adopted sufficiently to become the defining product for scripting languages has yet to be seen; but it's hard to argue that a better development environment for these languages can be found today.

Programmers who are still wedded to nongraphical IDEs have emacs to satisfy them. This sprawling environment has been the segment leader for decades, although the grandeur of its capabilities has been truly evident only during the past 10 years when workstations have been powerful enough to give it the speed it needs. (Previously, the devilish attribution that emacs stood for "eight megabytes and constantly spooling" had an undeniably factual dimension.)

The problem of IDEs that are overly ambitious for the underlying hardware has existed for a long time. The Lucid product or the Centerline tools on Unix were examples of this problem. emacs endured into the era of sufficiently robust platforms due to its strong links to the open-source community.

I think Eclipse, Visual Studio .NET, Xcode, emacs and Komodo are likely to become the de facto IDEs, and they will leave very little room for new entrants to muscle into the market. Most other editors and environments will either die away or become plug-ins.

Many readers will feel that this consolidation in the IDE market is undesirable, because the competition of the past has improved the products. I don't believe this. Rather, I think Eclipse and Visual Studio .NET in particular will spur innovation, because they will save small innovative vendors from being obliged to write their own IDEs.

How many tools like IntelliJ IDEA did not see the light of day because they needed to be wrapped in an IDE? With today's plug-in architectures, vendors can focus on their true added value, without having to be concerned about the framework...which suggests some wonderful products are on the way. ■

Andrew Binstock is the principal analyst at Pacific Data Works LLC.

First, or Best, to Market?

How important is the notion of "first to market?" I had intended, in this column, to review VisiComp's RetroVue debugger, but unfortunately, the installed (as compared to demo'd) version was disappointing. RetroVue is a wonderful idea: a debugger that keeps a history of your execution so that you can definitively answer the question: "How did that happen?" But the shipped product simply is not good enough to be thoroughly tested and reviewed; my guess is that they were so interested in being first to market, they released too early, rendering a potentially great product disappointing. Rather than discuss RetroVue, then, let's talk about the first-to-market issue.

Putting things into perspective: Of the billion-dollar products that are endemic on today's PCs (spreadsheets, databases, word processors and operating systems), can you name any product leaders in these categories who were first to market? The first-to-market PC-based products in these categories were VisiCalc, dBASE and WordStar, and CP/M. None of these products (or the companies that created them) exist today. Being first to market often does nothing but prepare the marketplace to accept the second-to-market products. Nonetheless, the gospel of first to market pushes people to release too early.

But don't you have to establish a "beach head?" Can't you fix the problems in version 2? People subjected to a bad version 1 won't try version 2. The competition won't be sitting on its hands waiting for you to get your act together, after all. Your potential customers, remembering their experience, will try the competition first, and people will stay with the first solid product they find.

So, "first to market" doesn't matter. "Successful in the marketplace" does. And it can't hurt to get to market as quickly as possible. So how do you quickly develop a successful product? I'll answer that question with another: What does a successful version 1.0 release look like?

First and foremost, no obvious bugs. Bugs are endless, but your product will simply fail if your schedule is more important than the bug count. The best way to deal with this problem is continuous testing. I'm a strong believer of Test-Driven Development (TDD), which advocates writing tests before you write the code you're testing. TDD alone cut my development time by at least half. Without automated regression testing in place, it's simply not possible

to refactor your code (improve it without changing functionality). There are lots of tools to help in testing. Erich Gamma's JUnit (www.junit.org) and its clones are everywhere. Find information about TDD at www.agiledata.org/essays/tdd.html and www.testdriven.com.

What better way to test than to give the real (though incomplete) program to real users, and have them use it? Continuous release of your software to a small user community gets you the feedback you need to produce a truly great product. It also measurably reduces bug counts and improves productivity. Regular releases aren't helpful if you can't keep track of the bugs, however. (Interestingly, the very act of tracking bugs reduces the initial bug count. Mozilla's Bugzilla system (www.bugzilla.org) is a free bug tracker that's just as good as the expensive ones.

The most bug-free program in the world is useless if you can't figure out how to use it. Bad documentation, often tacked on as an afterthought, is usually a recap of what you can see in front of you on the screen. Useful documentation first identifies the problems that your users are trying to solve, then shows

them how to solve those problems by walking through a set of common tasks.

This philosophy describes the first two steps of the OO Design process: problem definition and use-case analysis. Upfront design gives you the user documentation before you write the code! By building your UI around the use cases—the user tasks—your program is more intuitive and needs less documentation (see Larry Constantine and Lucy Lockwood's "Software for Use: A Practical Guide to the Models and Methods of Usage-Centered Design"). More important, working with real end users to define your use cases guarantees software that's truly useful.

Upfront design not only gives you good docs, but also cuts development time. You don't have to design the entire program before writing any code, but you can't code even a small piece of the program if you haven't designed that piece first. The agile methodologies all design on the fly as the program develops, but that doesn't mean that the agile folks don't do design. They design continuously.

None of what I've just written is earth-shattering. We've all known how we "should" build software; we just don't do it. It's about time everyone realized that building quality code gets truly useful software to market faster with fewer bugs, and that's a recipe for success. ■

Allen Holub is an architect, consultant and instructor in C/C++, Java and OO Design. Reach him at www.holub.com.

Java Watch



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Flowcharting the Course for Whitehorse

When I was a kid, to prepare for our three-mile walk through snowdrifts—all uphill, of course—to get to the computing center, we used a powerful diagrammatic notation called “flowcharts.” These high-abstraction views into the system allowed all stakeholders to contribute their unique perspectives to the evolution of the system...or something like that. You put the statements in boxes and the decision points in diamonds, and then there were a bunch of other symbols that I guess some people used, but mostly it was boxes and diamonds.

Flowcharts fell out of fashion. While flowcharting was clearly helpful in an ad hoc manner, such as charting a set of decisions on a blackboard during a discussion, the major use of flowcharts was documentary. The majority of flowcharts (that I produced, anyway) were done after the coding fact. In the end, flowcharts were doomed by the feeling that they were mostly used to state clumsily and imprecisely what could be stated elegantly and precisely in code.

Along came the Entity Relationship Diagram, a way of diagramming relational data. ER diagrams didn't help much to specify what your code was going to look like, but they were invaluable for figuring out how to structure and traverse a database. Upfront data modeling was usually well worth the effort, even though ER diagrams, like flowcharts, were at least as important for descriptive as for prescriptive purposes.

ER diagrams have never gone away. They are embedded in database tools and supported in drawing programs, and they support a few small, but seemingly viable, third-party vendors. Why has ER diagramming stayed around while flowchart diagramming has faded? For one thing, ER diagrams do not try to substitute for

SQL or even a large subset thereof. They're also easy to learn, and they present a visual metaphor that maps very well into the concept being abstracted.

Perhaps most important, ER diagrams are precise. There's no ambiguity in an ER diagram: A database creation script can be generated from an ER, and an existing database can be interpreted graphically without supervision. The same is true only with flowcharts of trivial programs.

To use modern buzzwords, translating between flowcharts and code required “round-tripping” while ER diagrams are “trip-less.” To use another phrase in favor in Redmond, an ER diagram represents a “domain-specific language”: The figures and connectors in an ER diagram have consistent and unambiguous meanings and are sufficiently expressive to accomplish the nontrivial task of relational data design.

Is the Unified Modeling Language more like Entity Relationship Diagrams or more like flowcharts? IBM, at least since its acquisition of Rational, supports the former view, while Microsoft advocates the latter. One way or the other, everyone believes that there's much to be gained from graphical notations other than ER diagrams.

It is striking how ably UML describes, say, coordination of asynchronous message calls while not providing a natural graphic vocabulary for the discussion of human-computer interaction (yes, mappings can be made and can be valuable, but it's a rare Web designer who works from a state-transition diagram pinned to the cubicle wall).

Also, as befits a notation used in analysis and design, UML has con-

structs that are intentionally ambiguous; I know of no implementation language that has a construct with semantics equivalent to UML's unadorned association (for example, “Foo and Bar know about each other somehow, but the form of that knowledge is explicitly ambiguous at this point”). This makes it

much harder to maintain an accurate mapping between a code implementation and perfectly useful UML diagrams that illustrate ambiguity or hide detail.

UML is the C++ of graphical notation systems: extremely powerful and expressive; particularly apt for the description of the internals of complex, asynchronous systems; quite complex in its entirety; and, to be honest, somewhat hampered by an evolution that has emphasized the commercial concerns of a large number of people.

Microsoft's response to the UML hegemony is Visual Studio 2005 Team Architect and its Application Connection Designer (code-named Whitehorse), which specifies the network topology of a complex system's deployment, including firewall and port configuration.

Is this graphical information useful? Yes, very. Does it communicate an issue more efficiently than a text-based representation? Yes, absolutely. Could this information be captured in a UML deployment diagram? Yes, but to actually implement a deployment in a trip-less manner would require specifying an extension to UML (and either awaiting committee approval or withstanding accusations of subversion) or a proprietary interpretation of loosely typed notations (even more prone to charges of subversion).

Right now there's a great clamor for Microsoft to “support UML” with a tool more capable than Visio. Microsoft rarely ignores a long-term demand from its development community, and I have little doubt that eventually Microsoft will deliver graphical notations for analysis and design that are, at the very least, familiar to UML users.

On the other hand, Microsoft believes that the Application Connection Designer will be the first of many graphical tools that will deliver value, broaden user expectations, and decrease demand for the particular syntax, semantics and evolutionary process of UML.

Just so long as they don't force me to make flowcharts. ■

Larry O'Brien is a technology consultant and analyst, and the founding editor of Software Development Magazine.

Windows & .NET Watch



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21 Rules of Thumb

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still just a list. There is no time for any effort that does not contribute toward completing the items on the list.

Everybody is expected to complete their items as promised. As unanticipated items arise, after appropriate resistance, they are put on the list.

A daily meeting should be established, with final decision-makers in attendance. Agenda is ad hoc, assembled at the beginning of each meeting. No item is postponed that can be handled now. The team is aware that all issues can be brought to this meeting for expeditious remedy. Management is involved, leading the team toward its goal.

The goal is an acceptable quality level at ship time. Only showstopper bugs should be addressed at all. Showstop-

pers are bugs that will either affect more than a handful of users or cause unacceptably serious errors. Cosmetic changes, performance enhancements or new functions are not appropriate changes. The purpose of beta feedback during this period is to prove there are no showstoppers, provide advance warning of unanticipated market reaction and provide input to the next release.

Understand the range of quality that is acceptable to your customers. How many low-priority bugs did your product ship with last time? Was it a problem? Are the customers better off with this product including this bug? Since destabilizing the software is more of a problem than most bugs, be very careful about which bugs you fix. This is why we have “ReadMe's” and bug lists. ■

A Lord of Discipline

As an engineering discipline, it would be kind to say that software development merely is young. It often is unstructured, with poor—if any—pre-project estimates of time, functionality, cost and manpower being done; little—if any—modeling of the project to gain a visual understanding of what is being built; and no—that's no—licensing of programmers to show they have achieved a level of expertise. Far too often, the mentality is more akin to playing jazz than engineering: "Let's just wing it."

Further, to say that software development as an industry is young implies that it is moving toward a more disciplined approach. While this undoubtedly is true in certain circles, those fighting to bring structure to the masses repeatedly tell me they run up against a "cultural resistance" to these types of changes. Sure they do. Human nature tells us that people get comfortable doing things a certain way and are very resistant to anyone coming along to tell them it's better to do those things in a different way—even if it really is a better way.

We hear time and again of software projects that missed their deadline (see "Longhorn Delayed Until 2006," page 3), or of projects that had their functionality cut so they could make their deadline (see "Longhorn Delayed Until 2006," page 3). Only in the software world, it seems, is this kind of lackadaisical planning and delivery accepted as part of doing business. Many major cities, for example, are using the carrot-and-stick approach to engineering projects. Fix a major roadway, and bring it in on time and under budget, and we'll reward you with a bonus. Bring it in late, and you eat the overrun.

Successful software projects need to have good preplanning as well as a way to assess the impact of any changes to the original plan. The real-world costs of bad software estimates can be enormous. No longer is software estimation an academic exercise.

Michael Mah has experience with software estimation. At Sperry Corp. in the 1970s, he worked as a group leader developing the navigational system for the Trident II nuclear submarine. You couldn't cut functionality on that project to meet a deadline. It was a complex system that ultimately had to let a vessel roughly the size of a horizontal apartment building sail blind, through dark waters with canyons, trenches

and undersea mountains. The project fell behind schedule, bugs were on the rise, and failure loomed. But Mah came across the work of Larry Putnam, a nuclear physicist who had discovered a technique for regression analysis of software projects, creating a model to predict the outcome of a project. There's lots of math under these predictive algorithms; Mah said his team was able to predict the amount of time necessary to complete the project, as well as the bug rate, to a 90 percent degree of accuracy.

Putnam went on to found QSM Inc.; Mah is now managing partner of the affiliate consulting arm QSM Associates. The company has developed the SLIM suite of tools for risk analysis, metrics, software size estimation and "in-flight" analysis.

Yet Mah has found that there remains a perception in the industry that accurate software estimation cannot be done. "Some people believe that no estimates, no deadlines, makes people work hard-

er." In reality, he said, if a company believes a project should be done in 10 months but an estimation of the work shows it will take 16 months, then hard decisions must be made. Perhaps you cut features. Perhaps you must hire more staff. "But a lot of political shenanigans go on in this area. There are some people who just don't want the truth."

Mah said that people with mathematical and physics backgrounds "get it." But, he noted, it's a harder sell to educate others looking for a quick fix, who believe sending a project offshore will help them cut costs and increase manpower on a project.

"If a U.S. company wants a project done in eight months, [in India] they throw an army at it," he said. That thinking, though, is flawed, as Mah pointed out the laws of software-project physics show a nonlinear gain by adding people to a project. "If you can do a project in 10 months with 10 people, you could put 20 people on it, but it won't cut it in half," he said, while raising the point that more people often create more problems. "The complexity of communication for a team of 40 makes bugs go up. The bug rate is 30 or 40 percent higher." He then lamented that "they get the contract to fix the bugs. It's built-in job security."

Mah clearly is no fan of outsourcing as a way to get around engineering problems: "The domain knowledge isn't always as good. A health company wanted to outsource a project to India but changed its mind. There is no health insurance in India. They couldn't write that code."

The world is an uncertain place. There are best-case and worst-case scenarios. If software development is truly to become an engineering discipline, the guesswork must be taken out of it. Computers can test bounds or ranges, then retest them, and perform simulations. As Mah said, "Dealing with 'We don't know' is something the industry needs to get over." ■

David Rubinstein is editor of SD Times.

Industry Watch



BUSINESS BRIEFS

Application migration and modernization solution provider **Transoft** has acquired the VMS and OpenVMS migration tools from **Accelr8 Technology Corp.** for about US\$700,000. According to the company's own research, about 30 percent of the estimated 400,000 VMS and OpenVMS users worldwide would like to change operating systems in the next three years. **Hewlett-Packard Co.** owns these systems but no longer offers technical support for VMS, and has said OpenVMS users will have to run it on other hardware platforms in the future, according to Transoft. Accelr8's tool set gives users a choice to shift their applications to Unix and Windows environments. Transoft will look to merge its application modernization and integration features with the Accelr8 migration solution. "Our goal is to provide the same 'Don't just move—improve'...benefit to the users of [these] systems as we do for...other legacy platform users," said Paul Holland, Transoft's CEO. Transoft also has signed an agreement with a German company that provides OpenFMS tools used by VMS and OpenVMS users to emulate the FMS screen I/O manager. . . . Web services software provider **Strikelron Inc.** has closed a US\$2.6 million round of funding, led by venture capital firm **The Aurora Funds Inc.** The company, founded in 2003 and based in Research Triangle Park, N.C., will continue developing its online Web Services Business Network, which the company claims eases finding, ac-

cessing, understanding, using and commercializing Web services. . . . **Newmerix Corp.**, a vendor of automated testing and change management software for packaged applications, recently closed a US\$7 million round of funding, led by **Siemens Venture Capital GmbH** and including **Mobius Venture Capital** and **IDG Ventures**. Newmerix has developed the Automate software suite, which offers program management, testing and CM software for such applications as Oracle, PeopleSoft, SAP and Siebel. AutomateProgram Manager and AutomateTest were released earlier this year; the change management piece is due later this year and a load-testing application should be out in early 2005, according to the company. . . . **IBM Corp.** will acquire integration software vendor **Venetica Corp.** for an undisclosed sum. The deal is expected to close by year's end. Venetica's software enables its users to access many different types of unstructured information, including Web pages, digital media and business documents, and then to integrate that information into existing business processes, the company said. The technology underlying Venetica's products will be built into future releases of the DB2 Information Integrator product line and will work with DB2 Content Manager and the WebSphere application server, portal and business integration server. Venetica is a privately held company based in Charlotte, N.C. ■



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International Function Point Users Group Annual Conference

San Diego

IFPUG

www.ifpug.org/conferences/annual.htm

SD Best Practices Conference & Expo

Boston

CMP MEDIA LLC

www.sdexpo.com

IBM DB2 Information Management Technical Conference

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www.ibm.com/services/learning/conf/us

Wescon

Anaheim

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www.wescon.com

Software Business 2004

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SOFTWARE BUSINESS MAGAZINE

www.softwarebusinessonline.com

Team Software Process User Group Conference

Pittsburgh

CMU SOFTWARE ENGINEERING INSTITUTE

www.sei.cmu.edu/tsp/user-group.html

Access-VB-SQL Advisor Live

Las Vegas

ADVISOR MEDIA INC.

advisorevents.com/CMB0409p.nsf

WebSphere Technical Exchange

San Francisco

IBM CORP.

www-3.ibm.com/services/learning/conf/us/websphere

TechXNY (PC Expo)

New York

CMP MEDIA LLC

www.techxny.com

TIBCO User Conference

Chicago

TIBCO SOFTWARE INC.

tucon.tibco.com

Gartner Symposium/ITxpo

Orlando, Fla.

GARTNER INC.

www4.gartner.com/2_events/symposium/worldwide.html

SoftSummit

Santa Clara

MACROVISION CORP.

www.softsummit.com

Wolfram Technology Conference

Champaign, Ill.

WOLFRAM RESEARCH INC.

www.wolfram.com/news/events/techconf2004

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